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CHILDREN AS BEHAVIOR CHANGE AGENTS:

THE ECOLOGICAL EFFECTS OF A PEER-MEDIATED INTERVENTION ON THE PROBLEM BEHAVIOR OF SIX BEHAVIOR DISORDERED ELEMENTARY SCHOOL PUPILS

BY

CHRISTOPHER MICHAEL PAUL DIACHUK

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY
IN
SPECIAL EDUCATION

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA
SPRING, 1990

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Children As Behavior Change Agents: The Ecological Effects Of A Peer-Mediated Intervention On The Problem Behavior Of Six Behavior Disordered Elementary School Pupils submitted by Christopher Michael Paul Diachuk in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Special Education.

Fern Snart
Supervisor

D. Massey

Lou McDonald

Jane Watkinson

Joseph J. Pear

Date: Apr 20, 1990

ABSTRACT

This study was designed to investigate the effects of several behavior management strategies in modifying inappropriate behavior and fostering appropriate ones, in elementary school boys placed in a self-contained classroom for behavior disordered children.

The experimental subjects of the study consisted of six boys identified by the school system as having behavior disorders severe enough to warrant placement in a self-contained special education classroom for one year. The independent variables consisted of a teacher-directed peer confrontation approach devised by Bellafiore and Salend (1983) and four specific techniques for establishing ecological home-school linkages. The ecological model of behavior disorders provided the conceptual framework for applying the intervention strategies.

Instruments used in this multiple baseline across subjects design included the Child Behavior Checklist, the Behavior Rating Profile, the Child Home, School and Community Checklists, the Life Event Scale - Children and a family-school relationship pattern measure.

Analysis of the data was both quantitative, to determine the statistical significance of baseline, intervention and followup score differences in the behavioral measures used, and qualitative, to describe the therapeutic significance of changes observed in various ecological settings. Three hypotheses related to problem behavior, the key variable of concern, were tested. In addition, this investigation briefly examined four exploratory variables indirectly related to problem behavior: family-school relationship patterns, stressful life events, self-perceptions of problem behavior and peer relationships.

Data analysis revealed that Hypothesis 1, which predicted a significant reduction in school problem behaviors, as well as Hypothesis 2, which predicted a significant decrease in home problem behaviors, were confirmed. Hypothesis 3, which predicted a significant reduction in community problem behaviors, was also confirmed. Both quantitatively and qualitatively, the data revealed that the intervention strategies were effective in significantly reducing the number of problem behaviors that the target subjects exhibited and that the effects generalized to other ecological settings during the 17 week intervention period.

The results of the investigation are discussed with reference to the efficacy of the strategies used and the ecological model of behavior disorders. Implications for theory, research and practice are discussed with emphasis on practical suggestions for classroom management for behavior disordered children.

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I wish to express my sincere appreciation to the many individuals who made meaningful contributions towards the completion of this dissertation. To Dr. Fern Snart, who supervised my efforts with care, encouragement and trust, I impart my deepest gratitude. I feel very fortunate to have had the opportunity to work with someone with her sense of commitment to family and her overall enjoyment of life. To the other members of my committee, Dr. Don Massey, Dr. Carolyn Yewchuk, Dr. Linda McDonald, Dr. Joseph Pear and Dr. Jane Watkinson, I gratefully acknowledge their friendship and willingness to act as my examiners. It was indeed an honour and a privilege to discuss my research with them.

I would like to thank my dad and mom, Mike and Rose Diachuk, for teaching me how to live life. With a unique combination of strength, patience and encouragement, they taught Craig, Karen and me that there is a buried treasure within each of us. Through mom and dad, we learned that the true challenge of life is to uncover our own unique treasures and to share them with those people that we love and care about the most. I sincerely hope that I can impart this same knowledge to Jesse and Kristen with the same love and mutual respect that my mom and dad have shown towards me.

Finally, I wish to thank my own little family for all of the patience, support and good cheer that they constantly provided me with over the past year. First, I want to thank my wife and partner, Gail, for all the vital "little things" that made all the difference, such as:

* reading and rereading the pages that didn't sound just right to me,

- warming up my feet in bed at 3:00 A.M. when I finally turned off the computer for the night,
- holding suppers for hours while I finished "just one more paragraph",
- cheerfully reminding the kids that, "yes, Daddy will be finished this important job one day",
- discussing statistical techniques and threats to external validity when there were probably close to a thousand other things that she would have preferred to be doing and,
- showing a great deal of pride and confidence in my abilities.

For these small kindnesses and many others too numerous to mention, I love her very, very much. Finally, I would like to thank Jesse and Kristy for being the best kids that any father could ever ask for. Their laughter, curiosity and unconditional love have brought true joy to my life. I have every confidence that their unique personalities and their many gifts and talents will continue to be a source of great pride for both their parents and grandparents for many years to come.

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CHAPTER I

INTRODUCTION

> Children who arouse negative feelings and induce negative behaviors in others...are not typically popular among or leaders of their classmates and playmates. They usually experience both social and academic failure at school. Most of the adults in their environment would choose to avoid them if they could. Their behavior is so persistently irritating to authority figures that they seem to invite punishment or rebuke. Even in their own eyes these children are usually failures, obtaining little gratification from life and chronically falling short of their own aspirations. They are handicapped children - not limited by diseased or crippled bodies but by behaviors that are discordant with their social and interpersonal contexts (Kauffman, 1989, p. 4).

Many teachers, physicians and mental health professionals have been exposed to children similar to those described by Kauffman (1989). These children exhibit, to a marked and prolonged extent, behavior that is clearly undesirable, inappropriate and maladaptive in its social context. As noted by Strain and Odom (1986), deficits in the area of social skills represent one of the more pervasive disabilities exhibited by all categories of exceptional children.

Numerous research studies (Loeber, 1982; McEvoy and Odom, 1987; Robins, 1978; Strain, 1981; Walker, Shinn, O'Neill and Ramsey, 1987; Wilson and Herrnstein, 1985) have confirmed that social skill deficits which appear during childhood tend to become more debilitating over time. In essence, early social skill deficiencies, most often manifested by the incidence of problem behavior, represent the single best behavioral predictor of significant adjustment problems in adulthood (Roff, 1961; Roff, Sells and Golden, 1972). Children who frequently exhibit antisocial problem behaviors are rejected by their peers and show poor social skills (Behar and Stewart, 1982; Carlson, Lahey and Neeper, 1984; Jennings, Mendelson, May and Brown, 1988;

Simpson, 1987). Such children are socially ineffective in their interactions with an array of significant adults, as reflected in their ongoing difficulties in deferring to adult authority, responding politely and promoting positive interactions (Freedman, Rosenthal, Donahoe, Schlundt and McFall, 1978; Gaffney and McFall, 1981).

Further, several investigators have postulated that an absence of social skills inhibits the development of cognitive problem-solving abilities (Dodge, 1985; Kendall and Braswell, 1985), language (Guralnick, 1981; Hartup, 1980) and academic competencies (Ledingham and Schwartzman, 1984; Sturge, 1982). Children who are typically characterized as having low levels of social competence also appear to have more difficulty coping with various environmental stressors and high risk situations than their normal peers (Brenner, 1984; Garmezy, Masten and Tellegen, 1984; Stiffman, Jung and Feldman, 1986). Figure 1 illustrates this notion. Behavior disordered students, perhaps almost by definition, are characterized by one or more of the following dysfunctional coping styles: acting-out, withdrawal, regression/helplessness, denial, internalising and perfectionism (Ray, 1987, p.136).

A wide and diverse array of interventions, including psychopharmacology, individual and group therapy and behavior therapy, have been designed to reduce the social skill deficiencies and problem behavior of exceptional children (Kazdin, 1987; Vorrath and Brendtro, 1985). By far, the majority of treatment literature dealing with behavioral change in these children casts adults in the role of change agent. However, numerous studies have shown that peers can function successfully as change agents, differentially reinforcing selected

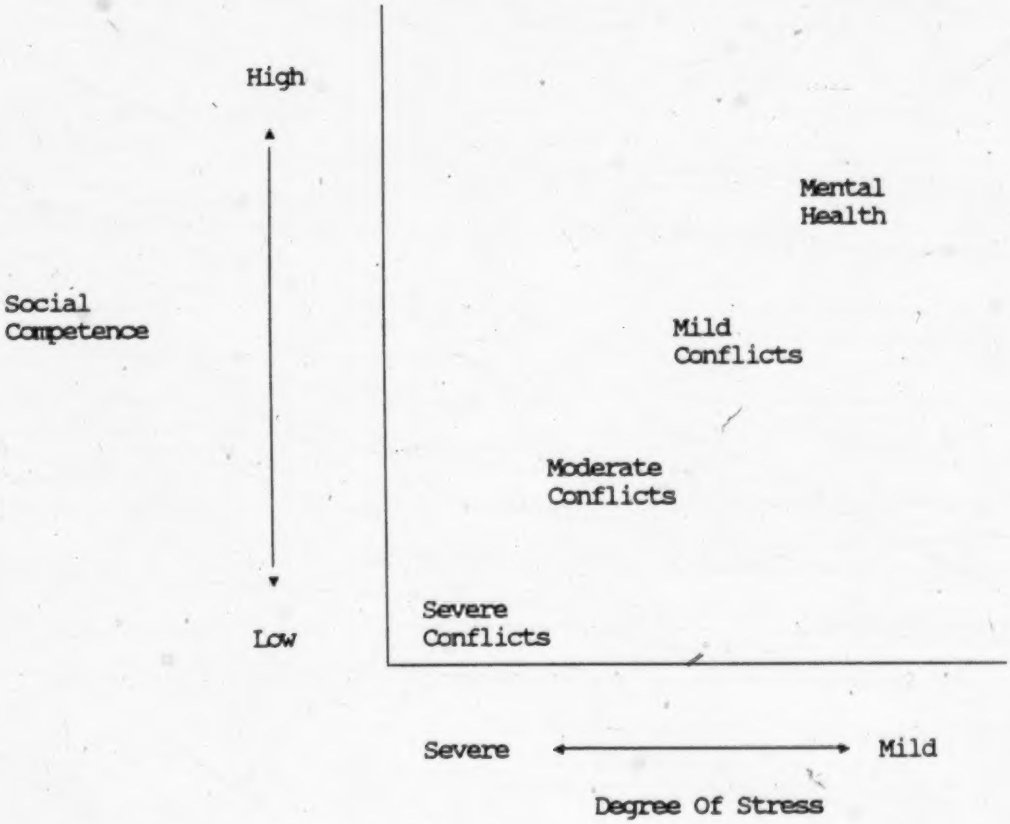


Figure 1
Relationship Between Social Competence And Degree Of Stress
Adapted From Marmor and Pumpian-Mindlin (1950), In Reinert (1987), p. 7.

responses and positively influencing peermates' social behavior (McGee, Kauffman and Nussen, 1977; Bellafiore and Salend, 1983; Sandler, Arnold, Gable and Strain, 1987; Strain, 1981). A critical review of these peer-mediated investigations suggests, however, that it is very difficult to generalize certain treatment effects across different times and settings. In making this determination, Kazdin (1987) proposed a broad-based model in order to accelerate the identification and development of effective treatments designed to ameliorate problem behavior and social skill deficits in children (p. 187). From a research perspective, Kazdin suggested that future empirical efforts in this area should examine the contributions of multiple treatment components.

The present study represents an attempt to identify and validate effective treatment strategies from an ecological perspective of children's behavior problems. The main thesis of the study is that, given effective instruction based on a number of ecological intervention strategies which constitute a behavioral plan of instruction for modifying the behavior of behavior disordered children, there should be a significant quantitative and qualitative improvement in appropriate behaviors, when reassessed over a defined experimental period.

The experimental subjects of this study were six elementary school-aged boys in a self-contained special education classroom. The independent variables were two intervention strategies used to manipulate the problem behavior of the pupils, specifically, a teacher-directed peer confrontation approach devised by Bellafiore and Salend (1983) and four specific techniques for establishing ecological home-school linkages. The dependent variable, problem behavior, was measured by two formal, norm-referenced instruments and four informal instruments. The two formal instruments that were used are the Child Behavior Checklist (CBCL: Achenbach and Edelbrock, 1983) and the Behavior Rating Profile (BRP: Brown and Hammill, 1983). The Child Home, School and Community Checklists (CHC, CSC and CCC: Wahler and Cormier, 1970), a series of structured, ecological interviews, the Life Event Scale - Children (LES: Coddington, 1981), the BRP Sociogram and an indepth examination of five family-school relationship patterns (Power and Bartholomew, 1987) represent the informal measures that were employed in this study. The classroom teacher completed both the Teacher Report Form of the Child Behavior Checklist and the Child School Behavior Checklist. Each child's parent/guardian(s) completed the Parent Form of the Child Behavior Checklist, the Child Home Behavior Checklist, the Child Community Behavior Checklist and the Life Event Scale - Children. The classroom aide and an independent rater collected daily observational data during separate 60 minute observation periods using the Direct Observation Form of the Child Behavior Checklist. The school counsellor administered the Student Rating Scales (Home, School and Peer) and the Sociogram from the Behavior Rating Profile to each of the experimental subjects.

The study involved a multiple baseline across subjects design (Barlow and Hersen, 1984; Kazdin, 1982; Kratochwill, 1978; Tawney and Gast, 1984). This design is often used in group settings, such as a classroom or psychiatric ward, where the performance of a particular target behavior may be a priority for all group members (Kazdin, 1982,

p. 134). In addition, the multiple baseline across subjects design responds to each of these considerations: (1) it targets a common skill across several subjects; (2) it staggers instruction to allow for rate differences and (3) it permits researchers to validate treatment effectiveness across several subjects, thereby enhancing the generality of findings (Tawney and Gast, 1984, p. 258).

Significance Of The Study

As evidenced by a recent proliferation of research articles (Algozzine, Morsink and Algozzine, 1988; Jennings, Mendelsohn, Linney and Seidman, 1989; May and Brown, 1988; Rose, 1988) and public commentary, there appears to be a very grave concern about the education and treatment of children similar to those described by Kauffman (1989). The efficacy of special education services for these children is being closely scrutinized by many diverse stakeholder groups, including parents, school staff, mental health professionals and various legal and governmental officials (Muscott, 1987). Apter and Goldstein (1986) noted that many of these stakeholders have suggested that greater priority should be given to the educational needs of conforming, high achieving students, while punitive steps should be taken against students who find school an uncomfortable fit. "Disturbed students continue to need all the intelligent, hard-working and self-critical friends they can find. To the extent that we learn to describe better our special education programs and can demonstrate their efficacy more adequately, we will be better friends to them than we are at present" (p. 19). Echoing this same sentiment, Reinert (1987) observed that there is a strong need for qualitative changes and more rigorous research in educational programs for troubled children. Perhaps the greatest challenge is to abandon the traditional "child-deficit" orientation towards these children and to research new treatment alternatives that are relevant in a number of environmental settings. It is in response to this challenge that the present investigation was designed.

This study was structured in order to address many of these empirical and pragmatic needs. Specifically, this investigation examined the relevance of using behavior disordered children as behavior change agents in a classroom setting. Empirical data was generated as to how school experiences affect the behavior of children in the home (Bronfenbrenner, 1986). Further, the efficacy of combining this approach with the establishment of home-school linkages was examined within the context of the broad-based, multiple treatment model proposed by Kazdin (1987). The results provide a contribution to the existing literature by demonstrating that classroom-based interventions can produce positive changes in a child's behavior in other behavior settings, such as at home and in the community.

Definition Of Terms

Despite the fact that numerous definitions of emotional and behavioral problems in children have been proposed over the past two decades, no single definition has been found to be adequate for the purposes of all professionals who work with these identified children (Erickson, 1987; Reinert, 1987). As a result, a variety of terms have been used to describe this condition, including the following: asocial, antisocial, behavior problem, delinquent, disruptive, emotionally disturbed, personality disordered, socially maladjusted, sociopathic and unsocialized (Reinert, 1987, pp. 4-5). Obviously, as Kauffman (1980) pointed out, the use of a particular definition does not remove the need for clinical judgement (p. 524). However, the definition must serve the purpose of the social agents who use it (Kauffman, 1981, p. 15). For the purposes of this study, the term behavior disordered (Grosenick and Huntze, 1980; Kauffman, 1981; Knoblock, 1987) is used to describe children who chronically and markedly respond to their environment in ways that deviate significantly from age-appropriate expectations and significantly interfere with their own learning and that of others. The presenting behaviors that characterize these children are outlined in Appendix A. These behaviors presently form the basis of definitions used by the American Federal Register (1981) and Alberta Education (1983) to guide the delivery of services to pupils with behavior disorders.

Explanations and definitions of various terms used in this study are now presented.

1. Behavior Disordered Child: The experimental subjects were identified as behavior disordered by their acceptance into a self-contained special education classroom for children with chronic behavior problems. Placement was based on assessments of behavior deviations by parents, teachers, psychologists, psychiatrists and other service delivery personnel. Each of the subjects had received two or more indefinite suspensions from their referring elementary schools and were judged to be a threat to the safety of either themselves or their classroom peers.

2. Intensity: A dependent measure that refers to the force or strength of a particular problem behavior. Intensity will be operationally defined according to the 3-point (not true/sometimes true/very often true) scale of the Child Behavior Checklist (CBCL: Achenbach and Edelbrock, 1983).

3. Number: Simple count of the number of times a problem behavior occurs during a specified observational period (Tawney and Gast, 1984).

4. Problem Behavior: Behavior that is at least somewhat antisocial or abnormal and, hence, creates a problem for the individual or those about him or her (English and English, 1976, p.409). Problem behavior is operationally defined by the specific presenting behaviors described by the CBCL and the Behavior Rating Profile (Hammill and Brown, 1983), such as temper tantrums, continually seeking attention, and physical aggression towards objects and persons.

CHAPTER II

LITERATURE REVIEW

Overview

For many years, a wide array of definitional and etiological issues have characterized the study of children's behavior disorders. Individual judgments made by professionals coming from different theoretical perspectives have often resulted in situations in which a particular child, for example, is regarded as mentally ill by a psychiatrist, as emotionally disturbed by a psychologist and as behavior disordered by a special educator (Long, 1975, p. 57). In essence, the definition that a given professional accepts will reflect how the problem of disordered behavior is conceptualized and, therefore, which intervention strategies are considered appropriate (Kauffman, 1989, p. 22). This review involves an examination of several conceptual models that have either directly or indirectly affected the current assessment and intervention strategies used with behavior disordered children.

This review also includes a discussion of the importance of family involvement in effective special education. As the primary ecological system in which children develop, several researchers (Apter and Popper, 1986; Bronfenbrenner, 1986; Lewis, 1982; Schmid, 1987, Swanson and Watson, 1989) contend that the family must be incorporated into processes of educational assessment and intervention. Lastly, the use of children as therapeutic change agents will also be reviewed.

The review of the research literature is conducted under the following headings:

1. Theoretical Considerations
2. Research Relevant To The Ecological Perspective Of Children's Behavior Disorders
3. Ecological Home-School Linkages
4. Peer-Mediated Interventions

In recognition of the central role of theories in planning treatment strategies (McDowell, Adamson and Wood, 1982) an examination of three major theoretical orientations towards problem behavior follows.

Theoretical Considerations

Over the years, innumerable divergent theories have been proposed in an attempt to understand and explain deviant human behavior. According to Kauffman (1989), "throughout history persons in every culture have sought to conceptualize unusual or disturbing human behavior in terms of causal factors and to draw implications of those factors for eliminating, controlling and preventing deviant acts. Human beings have been variously conceptualized, for example, as spiritual beings, biological organisms, rational and feeling persons, and as products of their environments. These themes have remained remarkably consistent for thousands of years, and contemporary versions are merely elaborations and extensions of their ancient counterparts" (p.78). Several conceptual models specifically concerned with both the etiology of deviant behavior and aberrations in the growth and development of children have been developed.

Newcomer (1980) has suggested that these models can be grouped into three major orientations, namely the disability, deviance and ecological perspectives of children's behavior problems. The following section will describe each of these perspectives, as well as the conceptual models associated with them.

The Disability Perspective

The disability perspective, basis for the term "emotionally disturbed", views inappropriate behavior as a disease caused by internal neurological or psychological disorders. Consequently, a child's disturbed behavior is perceived to be symptomatic of an underlying illness. Once an emotional disturbance has been diagnosed, physicians and therapists attempt to measure the child's internal functioning in order to focus on what has caused the behavior. Emotionally disturbed states are believed to be fixed conditions that are neither culturally or environmentally induced. Treatment and intervention strategies, therefore, focus on curing the child's underlying pathology, rather than simply removing symptoms (Newcomer, 1980). The biophysical and psychodynamic models are both representative of this perspective. A brief examination of each model follows.

From the biophysical point of view, emotional disturbances are the result of some biogenetic weakness or malfunction within the child (Haring, 1987). Proponents of this model adhere to the belief that organic factors such as inherited genetic traits (Lorenz, 1966; Wilson, 1975), nutritional disorders (Birch and Gussow, 1970; Rutter, 1980), chemical imbalances (Lipton, DiMascio and Killam, 1978) and neurological dysfunctions (John 1977) account for a range of mental and emotional disturbances (Sagor, 1972; Knoblock, 1983). The principal criteria currently used by physicians and psychiatrists to classify and label children's behavior problems are contained in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R, American Psychiatric Association, 1987).

Treatment approaches based on the biophysical model, including drug therapy and dietary control, generally follow a medical orientation (Feingold, 1975; Werry, 1986). These treatment approaches have been criticized, however, for their lack of attention to the social and interactional forces impinging on the child (Schrag and Divoky, 1975). Noting the teacher's lack of active participation in medical interventions, Reinert (1980) has suggested the school staff maintain a supportive role by communicating effectively with physicians and by monitoring the progress of identified children. Beyond this suggestion, few firm educational interventions and conclusions have been drawn from these theories (Paul and Epanchin, 1982). On the other hand, the psychodynamic model has made several important contributions to educational programming for disturbed children (Apter, 1982, Epanchin and Paul, 1987). A brief review of this model follows.

The psychodynamic model, which incorporates various theories and points of view, is based upon the premise that disturbed behavior is largely determined by psychological processes. Psychopathology is determined by the way in which the child's psychological makeup, thoughts, feelings, perceptions and needs, responds to the environmental influences of everyday life. Therefore, a disturbed child's behavior is viewed as being merely symptomatic of an underlying "mental illness"; the cause of the mental illness is usually attributed to excessive restriction or excessive gratification of the child's instincts at a critical stage of development or to early traumatic experiences (Kauffman, 1989). Psychodynamic theorists contend that although all children bring inherited potentialities to life situations, it is the specific manner in which those genetic or biological factors interact with particular aspects of the child's personality that results in the development of maladaptive or disturbed behavior (Apter, 1982). In essence, the emotionally disturbed child is seen as being unsuccessful in negotiating the various intrapsychic and external conflicts faced in the process of psychological and physiological maturity (Reinert, 1980). Behaviors that reflect a state of emotional disturbance are believed to be caused primarily by internal psychic pathology.

Identifying the etiology of a child's disturbed behavior is viewed as being crucial to providing effective treatment. Psychodynamic theorists maintain that the child is not consciously aware of the source of the problem. Therefore, treatment typically involves changing the child by providing insights into past conflicts unearthed from the unconscious. Changing the child's overt behavior is seen as less important than dealing with the underlying conflicts that cause the behavior, since surface treatment only results in symptom substitution (Bettelheim, 1970; Watkins and Schatman, 1986). Therapeutic interventions, ranging from "life-space interviews" (Redl, 1959) to "psychoeducational teaching" (Long, Morse and Newman, 1980) are diverse and often combine efforts to help children become aware of their behaviors and how to improve them.

In summary, both of these disability models include some attempt to measure internal functioning in order to determine the cause of the child's inappropriate behavior, which is viewed as an illness. In addition, emotionally disturbed states are believed to be fixed conditions, rather than culturally or environmentally induced. Treatment approaches centre on curing the child's underlying pathology instead of simply removing behavioral symptoms (Apter and Conoley, 1984).

Clearly, there are several advantages to the disability perspective. By closely focusing on etiology, physicians and psychiatrists are able to place a disturbed child within a culture-free classification system. Early and humane treatment of emotionally disturbed children is also an essential component of this approach. The psychodynamic model has also made three positive contributions to the attitude that teachers take towards these children. First, teachers have learned that emotionally disturbed children do not always consciously plan and cannot always consciously control disruptive behaviors. Therefore, when they misbehave they should not always be treated punitively. Second, hostility directed toward the teacher should not be viewed as a personal insult since it might stem from a variety of motivations and does not necessarily mean that the child dislikes the teacher. Third, children respond emotionally rather that rationally to internal conflicts, therefore, inconsistencies in behavior should be expected (Newcomer, 1980).

The disability perspective also has several notable weaknesses. The inability to accurately measure and verify the intern forces and underlying pathological states used to determine emotional disturbance often leads to disagreements about the diagnosis of behavior problems. Relatedly, since emotionally disturbed children in this view may be regarded as ill, it might be considered best to remove them from contact with normal children and to educate them in separate special facilities. In addition, since the illness is seen as coming from within the child, teachers may feel that little attention need be paid to changing the classroom environment. Instead, a great deal of effort is directed toward isolating the exact nature of the child's disability, through the use of comprehensive batteries of diagnostic tests. That is, if change is to occur, it must occur within the child. Finally, the stigma associated with the label of mental illness, or emotional disturbance, may far outweigh the potential benefits of treatment (Newcomer, 1980). The deviance perspective also has clear advantages and disadvantages. A review of this orientation and the conceptual models associated with it follows.

The Deviance Perspective

The deviance perspective, encompassing both the behavioral and sociological models, views behavior disorders as being relative to the culture in which they occur. Problem behavior is not seen as a fixed condition, but rather as a variable state dependent upon environmental circumstances (Newcomer, 1980). In essence, community judgments determine who is labelled as behavior disordered. Since many behaviors which are viewed as being inappropriate are commonly displayed by many school-age children, it may only be the frequency, intensity and duration of such behaviors that separates deviant children from their normal peers. Interventions based on this perspective generally involve teaching such children socially appropriate behaviors so that they can honour socially prescribed rules. A brief examination of the behavioral and sociological models that are representative of this perspective follows.

The behavioral model includes several theories and points of view about observable human behavior, especially behavior associated with learning. Although there is a certain amount of controversy and disagreement among these variations, two points most clearly define the behavioral model. One point is the assumption that all behavior is acquired and regulated by certain experimentally determined principles of learning. A second defining characteristic of the model is a commitment to scientific methods of studying behavior and behavior change (Cullinan, Epstein and Lloyd, 1983; Rizzo and Zabel,1988). Clearly, the most important variation of behavioral methodology is operant conditioning (Apter, 1982). First introduced by Skinner (1953), operant learning is based on the principle that all behavior is determined by its consequences.

The behavioral model promotes the idea that behavioral deviance is essentially maladaptive behavior that has been learned and maintained just like other more appropriate behaviors through positive and negative reinforcement and punishments (Bandura, 1969; Meichenbaum, 1977; Patterson, Jones, Whittier and Wright, 1975; Walker, Reavis, Rhode and Jenson, 1985). Behavioral theorists assume that disruptive behaviors result from the learning of socially inappropriate behaviors at home and at school (Walker and Buckley, 1973). Such theorists maintain that instances of maladaptive behavior can be reduced significantly by restructuring children's educational and emotional experiences for predictability of appropriate behavior (Hallahan and Kauffman, 1988). Experiences can also be designed to reveal to children the relationship between behavior and its consequences (Bandura, 1977; Homme, 1979; Kazdin, 1975; Kounin, 1970; Knoblock, 1983). Another conceptual framework which places great emphasis on the influence that environment has on behavior is the sociological model.

The central notion of the sociological model of deviance is that individuals must behave in ways that are generally predictable and expected by others for human interaction to proceed. In order to assume that most people behave in a dependable fashion, societies and groups exercise social control. Goffman (1971) has suggested that self-control is the primary mechanism by which social control is maintained. Self-control depends on the fact that group members, such as the children in a classroom, are capable of achieving it and that such members value the requirements placed upon them. A second form of social control is informal control. In the classroom, informal control is usually manifested as corrective feedback, gentle reminders and direct instruction. Many sociologists, including Parsons (1951), view informal control as the primary means by which social learning takes place. A final mechanism by which social control is maintained is through the application of formal sanctions and official disapproval, such as a referral to the principal's office or a formal suspension from school (Paul and Epanchin, 1982).

According to sociological theory, behavioral deviance refers to a condition in which a child violates a social rule or norm and this violation is addressed by persons who have the authority to impose sanctions, one of which can be punishment. Social deviance, therefore, involves not only the violation of a rule but it also involves seeing the violation and deeming it to be of sufficient importance to act towards it in some negative way. For a child to be considered deviant, then, it is not sufficient to know that a rule has been violated; it must also be known what meaning others, especially others in authority, give to the rule violation (Paul and Epanchin, 1982). In essence, the behavior disordered label applies not only to what goes on within the child, but also to the interaction between the child and others. The sociological model of behavior disorders is explicitly concerned with the nature of rule violation, social controls imposed by institutions between the disturbed child and others.

As noted by Reinert (1980), the labelling process is the most distinctive feature of this theory. Lemert (1962) and Des Jarlais and Paul (1978) adhere to the premise that labelling alone is a powerful inducement toward deviance or conformity. Further, these theorists have suggested that labels can stigmatize children in school and beyond by creating inappropriate expectations of their academic and social behavior. Another example of the negative impact of labelling was reported by Ysseldyke and Foster (1978), who asked teachers to view a videotape of a normal child. Teachers who were told that the child was emotionally disturbed rated the child's behavior as much more deviant than did teachers who were told they were viewing a normal child. In essence, people are more likely to expect deviant behavior from labelled individuals and to rate nonhandicapped individuals as possessing abnormal traits if they are provided with the misinformation that the individuals are deviant (Hallahan and Kauffman, 1988).

Educational implications of this model largely consist of alternate ways of viewing the behavior disordered child in the classroom. Apter and Conoley (1984) note that sociological intervention strategies are typically broad-scale efforts aimed more at social and attitudinal change than at modification of any one child's behavior. Paul and Epanchin (1982) concede that although teachers may not have much impact on the way in which society is organized, they do have considerable influence on the way in which the minisocieties that exist in their classrooms are organized. Further, they recommend that teachers reexamine the effects of expectations, rules and various labels on children's self-concepts and educational success.

In summary, the sociological model is more concerned with the wider environment, which includes institutions, communities, culture and society, than its behavioral counterpart. However, both of these deviance models focus on understanding how external forces can produce particular behaviors in children and groups of children. Further, this perspective demands that the context in which the behavior occurs be investigated. It emphasizes the transitory and arbitrary elements of the entire labelling process and focuses on specific, observable behaviors instead of implied underlying pathology (Apter and Conoley, 1984). The behavioral model has had an important influence on the education of behavior disordered children through its development of numerous behavioral intervention strategies, assessment techniques and research designs (McDowell, Adamson and Wood, 1982).

According to Newcomer (1980), the deviance perspective has three major shortcomings. First, it seems to equate normality with mere conformity to the rules and regulations of a particular society. Conversely, nonconformity to socially acceptable behaviors may result in a child being diagnosed as being behavior disordered. Apter and Conoley (1984) note that this is a difficult assumption to support, since a behavior such as vandalism may be socially acceptable to a group of juvenile delinquents, while being viewed as pathological to society at large. In addition, nonconformity may be necessary for scientific and artistic advancement. Secondly, if conformity and socially acceptable behavior is the critical issue, therapists and teachers may be faced with teaching currently acceptable behavior while reducing the chance for advancement that comes from nonconforming experimentation. As Newcomer notes, "under these circumstances, the Wright brothers might have been punished for working on their airplane and rewarded for building better bicycles" (p.20).

Finally, both the deviance and disability perspectives focus on the individual child as both the repository of the emotional disturbance - behavior disorder and as the sole target for intervention. Neither perspective concentrates on the interaction between the child and the particular system in which the disturbance occurs, be it the home, school or community. As a result, needed changes in these systems are neglected as the disturbance remains part and parcel of the individual child (Apter and Conoley, 1984). In contrast, the ecological perspective focuses on the relationship between the child and the environment or ecosystem, to explain behavior and to identify intervention strategies (Mandell and Gold, 1984: Rizzo and Zabel, 1988). This approach will be described in the next section of this review.

The Ecological Perspective

Proponents of the ecological perspective suggest that this view represents both an alternative approach to conceptualizing and defining children's behavior problems and, perhaps, a resolution to the emotional disturbance - behavior disorders controversy. A growing number of researchers regard the ecological approach as an emerging, relatively recent conceptual development (Knoblock, 1983) that offers professionals the best choice for integration of all theoretical approaches (Evans, Evans and Schmid, 1989; Reinert, 1980). Epanchin and Paul (1987) contend that its unique view of children's behavior problems permits professionals to make maximum use of the information gleaned from each of the other perspectives in order to formulate a therapeutic intervention. A brief examination of the historical roots, underlying assumptions and educational implications of this perspective follows.

The ecological model grew out of the concepts from several disciplines including anthropology, sociology and ecological psychology (Kauffman and Hallahan, 1981). Human ecologists all view behavior as a product of the interaction between internal forces and environmental circumstances (Algozzine, 1977). Beginning in the early 1900's, anthropologists have focused primarily on the cultural context in which deviant behavior occurs. Similarly, sociologists have studied the relationship between significant social conditions and high rates of deviance. For instance, the seminal work of Farris and Dunham (1939) described social disorganization and concentric zone theories and their relationship to the incidence of mental illness. They proposed that three conditions are necessary to have a mentally healthy child: (1) intimacy and affection between the child and some permanent group, (2) a consistency of influence, and (3) some harmony between home and outside situations. They also noted that insanity is not defined by a list of actions, but, rather by a lack of fitness between actions and situations (Apter and Conoley, p.85).

Ecological psychologists such as Barker (1965, 1968) and Bronfenbrenner (1974, 1975, 1977) originated the concept of behavior settings, small ecosystems that call forth particular behaviors, as an appropriate ecological unit for studying the interactions between children and environments. In doing so, they discovered the importance of synomorphy, the fit of individual behavior to a particular behavior setting, and concluded that mental illness is a term used to represent behavior that is poorly fitted to a setting (Knoblock,1987). Further, they noted that since behavior can be significantly different in different settings, it appears invalid to diagnose deviance on the basis of only one setting, such as school, or one part of one setting, such as a classroom (Bulgren and Knackendoffel, 1987).

Although ecological psychologists have developed involved assessment techniques for observing human behavior in natural settings, they are uninterested in intervening or manipulating the environment or its inhabitants in any way (McDowell, Adamson and Wood, 1982). This approach represents a key distinction between ecological psychology and the ecological perspective regarding children's behavior problems. The latter discipline has systematically explored the syncmorphy between an individual child, his or her level of development, temperament, motivation and intelligence. It also involves a given behavior setting consisting of aspects of teacher expectation, the physical environment and some programming (McDowell, Adamson and Wood, p. 80). Researchers (Gump, 1975, 1977; Kounin, 1970; Prieto and Rutherford, 1977) have completed extensive studies to determine the nature and cause of the faulty adaptation between the child and the environment which has resulted in disturbed interactions. Collectively, these authors and others (Hobbs, 1975; Rhodes, 1970; Swap, 1978) have formulated several assumptions about the interaction between a child and the environment. A description of these five postulates follows.

First, proponents of the ecological model assume that emotional disturbance does not reside exclusively within the child. Instead, they presume that disturbance results from a faulty interaction between the child and a particular environment (Evans, Evans and Schmid, 1989; Hobbs, 1975; Rhodes, 1970). Several factors may prompt a faulty interaction. The environment may present conditions that elicit disturbing behaviors in the child. For instance, a child may react in a physically aggressive manner to the taunts and teasing of his classroom peers. In addition, unusual characteristics of a child, such as autism, may elicit disturbing responses in different settings. More frequently, however, a disturbance is caused when either: (1) a disjunction exists between a child's characteristics and the expectations of a particular setting, or (2) the child learns a pattern of behavior that is adaptive in one setting but creates problems in another (McDowell, Adamson and Wood, 1982).

A second assumption of this model is that interventions designed to eliminate a disturbance must focus on altering the total system in which the disturbing behavior occurs. Three implications follow from this assumption. First, a concerted effort must be made to discover, identify and classify the personal and environmental variables that contribute to the disturbance. This may involve normalizing both child and adult behaviors. The child is seen, not as disturbed, but as reacting to the disjunction between his or her personal characteristics and the behavioral expectations of a given setting. Similarly, the adult is regarded, not as inadequate or pathological, but as temporarily unable to structure the setting so that the child can respond appropriately (Apter and Propper, 1986). Thus, by focussing on changing specific discordant interactions in particular behavior settings, ecological theorists (Hobbs, 1975, Rhodes, 1970) tend to deemphasize individual deficits in both adults and children. Adults and, to a lesser extent, children are assumed to be competent partners in the problem-solving process. Another point of view is that ecologists believe that several different interventions can occur simultaneously (Hilton, 1987). Consequently, the way to help a child may not necessarily focus only on the child. It may be more productive to direct efforts to other parts of a child's ecosystem, as well. This broader view of the treatment of children's behavior problems gives rise to three major target areas for intervention: changing the child, changing the environment and changing attitudes and expectations (Long, Morse and Newman, 1980).

The third assumption made by ecological theorists is that interventions are eclectic and often involve a multidisciplinary team. Hobbs (1975) described a variety of intervention strategies appropriate to this model. These include helping the child gain competencies and change his or her priorities or expectations. As a last resort, the child may be temporarily removed from the discordant situation (p. 120). Therefore, effective interventions may involve the participation of a variety of professionals assigned to separate, yet related tasks.

The notion that interventions in a complex ecological system may have unanticipated consequences is the basis of this model's fourth assumption. Apter (1982) and Willems (1977) have suggested that since all elements in a child's ecosystem impact on one another, it is possible to intervene in one area and see additional effects, both intended and unintended, in another. This assumption is illustrated by the following example:

> Ann was a seriously disturbed twelve year-old in a residential school for disturbed children. At the time of referral, the public school was more concerned with her behavior and adjustment than her family was. In fact, her family was not particularly upset at Ann's behavior. They had a low income, little education, and minimal expectations for Ann's academic and social development.
>
> In the residential school, Ann made considerable progress. Besides the changes in adjustment, however, the school inadvertantly fostered other changes that subsequently proved disruptive. In particular, the school encouraged such behaviors as bathing every night, appropriate verbal manners, and eating with correct utensils. When Ann returned home after treatment, she immediately began attacking her family for such things as not bathing every night.
>
> Needless to say, the family was quite upset with Ann; they were more upset with Ann at the end of treatment than at the

> beginning. Thus, because the ecology of Ann's home was not taken into consideration in treatment, the actual program tended to make Ann dysfunctional in that setting (McDowell, Adamson and Wood, 1982, pp. 77-78).

Clearly, improvements in any one part of a given system can have an impact on other parts of it.

A final assumption of the ecological perspective is that each interaction between a child and a particular behavior setting is unique. In essence, a different set of personal and environmental variables is perceived to be operating in each discordant interaction. As noted by McDowell, Adamson and Wood (1982), this assumption underscores both the advantages and disadvantages of the ecological perspective. By assuming that no two children and settings are exactly alike, ecologists stress that it is inappropriate to predict which particular variables have a bearing on a given child's behavior. Similarly, the results of a specific intervention strategy cannot be automatically generalized from one case to another. Proponents of this approach (Apter, 1982; Apter and Conoley, 1984; Hobbs, 1975) do not have preconceived, limited notions about the causes of dysfunctional interactions. Similar inappropriate behaviors may have different origins and so demand different interventions (Apter and Propper, 1986). For instance, the physically aggressive behaviors commonly exhibited by two four year old boys may be caused by severe sibling rivalry in one case and by a physically abusive father in another. As a result, two very different sets of intervention strategies may be employed in each situation.

The assumption that each interaction between a child and a particular behavior setting is unique characterizes the ecological perspectives advantages. By assessing the variables of each discordant system objectively, an individualized intervention plan can be formulated for a particular child. As noted, this plan may consist of a number of strategies implemented by a multidisciplinary team of teachers, physicians and mental health professionals. Unlike traditional psychotherapy, these interventions may be conducted in the child's natural behavior settings. Thus, the promotion of growth and competence in members of the system helps to avoid the potentially significant consequences of being labelled as pathological, disturbed or inadequate. Another advantage of this perspective is that interventions that alter an ecological system can often benefit not just the target child, but many other children as well. As interventions are applied to increasingly complex or large ecological systems, particularly at the school or community level, this advantage becomes increasingly important (McDowell, Adamson and Wood, 1982, p.98).

In summary, the ecological perspective offers an alternative conceptual approach to understanding and evaluating children's emotional disturbances and behavior disorders. It is based on the assumption that every child is a member of a unique ecosystem, in which other members are defined by their interactions with the child. When many of those interactions are negative, the child may be identified as emotionally disturbed or behavior disordered. Ecological interventions are designed to increase opportunities for the child to succeed, to help parents, teachers and others to increase their skills, and at times, to change the composition of the ecosystem (Lewis, 1982, p.149).

With regard to the present study, all previous investigations that have cast elementary school children as behavior change agents have examined problem behavior from either a deviance or a disability perspective. Both of these approaches assume that the child is the sole repository of either an emotional disturbance or behavior disorder. Clearly, none of these investigations have examined the ecological effects of school-based, peer-mediated interventions on the problem behavior of disturbed children in other environmental settings, such as the home or community. Within the general context of children's development, Bronfenbrenner (1986) has stated that, "although there have been numerous investigations of the influence of the family on the child's performance and behavior in school, as yet no researchers have examined how school experiences affect the behavior of children in the home" (p. 727). He concluded that research in this sphere has been heavily one-sided.

In light of the perceived limitations of the disability and deviance orientations towards children's behavior problems, the ecological perspective is adopted for the purposes of this study. The implications that this perspective has towards defining, assessing and treating emotional and behavior problems in children is the focus of this investigation.

Research Relevant To The Ecological Perspective Of Behavior Disorders

Introduction

The ecological orientation, which forms the basis of this study, was first applied to the field of special education in 1961 when Nicholas Hobbs developed Project Re-ED, a program for behavior disordered children (Schmid, 1987). This program viewed the emotional and behavioral problems of disturbed children from a much broader perspective than either the deviance or disability approaches did. Based on Rhodes's (1967) principles of ecological management, Project Re-ED stressed the importance of examining a child's entire ecosystem for sources of disturbance. Disturbance was perceived to be a mismatch between a child's abilities and the demands of his or her environment. Interventions that either increased a child's abilities to cope with social situations or decreased environmental pressures were used to reduce disruptive behaviors (Apter, 1982).

Subsequent to the establishment of Project Re-ED, the ecological model has been examined, evaluated and refined by several other researchers. Swap (1974, 1978) successfully integrated the ecological model with Hewett's (1969) education-based development model and Erikson's (1968) psychology-based development model. Further, Thomas and Marshall (1977) developed a four-phase ecological model for clinical evaluation and coordination of services to handicapped children.

Thirty years after the establishment of Project Re-ED, the ecological model of behavior disorders has become significantly more accepted by special educators. It is becoming more common for a child to be viewed within a context of intricate relationships and less likely that mental health and educational professionals will focus solely upon the child when developing intervention programs. Simultaneous assessment and intervention with the child, family, peer group and teachers are becoming more evident in current practice (Schmid, 1987, p. 7).

Use of ecological assessment and intervention strategies in other child-related fields of study has grown significantly in the past ten years. Edmund W. Gordon, editor of the American Journal of Orthopsychiatry, noted in 1982 that the ecological perspective was being applied to primary prevention in pediatrics, clinical intervention in the treatment of children and youth and towards understanding the complex problems associated with both behavior disordered and learning-disabled children.

The ecological orientation has also had a definite impact upon other areas of research and practice. For instance, this perspective is now evident in assessing psychological determinants of parenting (Reis, Barbera-Stein and Bennett, 1986), diagnostic counselling classification plans (Hurst and McKinley, 1988), classroom interventions (Raymond, 1987), observation of behavior disordered students (Blom, Lininger and Charlesworth, 1987) and counselling intervention strategies (McCarney, 1987). Overall, it appears that the ecological perspective continues to gain adherents and most evaluations (Daly, 1985; Lewis, 1982; Votel, 1985; Weinstein, 1969) appear to support its efficacy (Kauffman, 1989, p. 67).

Present Status Of The Ecological Model In Special Education

The ecological model of behavior disorders continues to evolve and stimulate critical inquiry from special education professionals. The questions raised by Frank Hewett (1987) best epitomize this situation. On one hand, Hewett acknowledges that, "emotional disturbance does not reside within individual children waiting to be analyzed, therapized, medicated, deconditioned or modified. Instead, it resides within entire family-school-community ecosystems waiting to be ameliorated by means of increased information, understanding, positive relationships and success" (p. 62). On the other hand, Hewett openly questions how much of the ecological view of behavior disordered children is shadow and how much is substance:

> in building the bridge from medical, psychiatric and psychological jargon and concepts to educational reality in the classroom, special educators have been confronted with varying degrees of shadow and substance. Shadow terms and concepts, such as therapy and ego strength, while professionally exhilarating and inspirational, may leave teachers responsible for disturbed children essentially empty handed. More substance-like terms and concepts, such as hand-eye coordination training and hyperactivity, may lead to more direct guidelines for hands-on educational practice, but their specificity and narrowness is limiting...it presently is not much clearer how one creates an ecological classroom or trains an ecological teacher (pp. 61-2).

Clearly, more practical demonstrations of the efficacy of both ecological assessment and intervention techniques are critical to establishing the substance and value of the ecological perspective. Eli Bower (1988), one of the most highly regarded pioneers in the field of educating behavior disordered children, echoed these same sentiments when he stated that, "the viability and success of human ecology and those of us who espouse its conceptual viability will be based on our ability to demonstrate how the principles work in the trenches" (p. 297).

Since the establishment of special education programs for behavior disordered pupils in the early 1960's, it has been very common for specific interventions to be generated from each of the major conceptual models of behavior disorders. For instance, psychopharmacological treatment is as representative of the biophysical model as the token economy is of the behavioral paradigm.

Historically, individual treatment programs for behavior disordered children have tended to reflect a single conceptual perspective. Hewett (1988) observed that, "what has changed, as the field of special education with the disturbed and behavior disordered has matured, is our wisdom and flexibility in drawing from a wide range of approaches when teaching individual children rather than imposing a single cookbook approach on all of them" (p.288).

As noted by Paul and Epanchin (1982), uniquely ecological interventions simply do not exist. Instead, intervention strategies developed in other conceptual models are adapted to fit into an ecological framework. Therefore, research relevant to the ecological model focuses on the various systems (Bronfenbrenner, 1979) that children are a part of and that influence their behavior. The following section attempts to establish the relevance of ecological factors, namely the environmental and social circumstances in which children grow up (Quay and Werry, 1979), in both assessing and remediating behavior problems.

Ecological Research On Children's Behavior Problems

Rutter (1975, 1979, 1981) and his colleagues conducted several studies which examined the impact of social systems on psychological disorders of children. In 1975, Rutter, Cox, Tupling and Yule investigated the behavior of ten year old children living in two very different areas of Britain - an inner London Borough (ILB) and a semi-rural area on the Isle of Wight (IOW). Teachers were asked to complete a children's behavior questionnaire (Rutter, 1967), from which a number of children in each area, plus a randomly selected group were intensively studied. The mothers of both groups of children were interviewed to gain information concerning family relationships and social circumstances. Fathers were interviewed separately, for briefer periods of time. Further information from classroom teachers was also systematically obtained.

Results of this study indicated that inner-city children were rated as deviant about twice as often as their semi-rural counterparts (ILB boys, 24.5%; ILB girls, 13.2%; IOW boys, 13.8%; IOW girls, 7.1%). The checks that the authors made to ensure that teacher thresholds were not different in the two areas provided strong support for the notion that there was a real difference in the deviance rate of the two areas. Similarly, the rate of prevalence of psychiatric disorders was twice as high in the city children (25.4%) as it was for the semi-rural sample (12.0%). The authors noted that these findings could not be explained in terms of migration of disturbed families into the city, because the proportion of parents of disturbed city children who had moved into the borough was not higher than in the randomly selected nondisturbed group.

Rutter, Cox, Tupling and Yule identified four variables in order to explain the within-area and between-area differences. First, disturbances of family relationships, as evidenced by the number of marital breakups and the number of times that a child was given up to the custody of local authorities, were much more common in both groups of disturbed children. A later study by Lavik (1977) produced similar results. Secondly, the disturbed group had a higher proportion of mothers, but not fathers, with psychiatric illnesses. Using an epidemiological approach, other investigators (Buck and Laughton, 1959; Hare and Shaw, 1965; Richman et al, 1975) also established that mental illness in parents, especially mothers, is closely linked to psychological disorders in children. Third, no clear-cut association between socioeconomic status and children's psychological disturbances was found. Gath (1977) did, however, find a correlation between guidance clinic referrals and housing types in London. Finally, several school factors had a bearing on the rate of disturbed children. Disturbed children were more likely to attend schools that had a high pupil/teacher turnover, a high percentage of children receiving free meals (an index of poverty and deprivation), a high rate of pupil absenteeism and a high proportion of immigrant children. In essence, this study demonstrated that a wide variety of ecological factors were associated with the prevalence of children's behavior problems.

In a followup review of later studies, Rutter (1981) found that the incidence of psychosocial problems of various kinds tended to be much higher in the inner cities than in the small towns or rural areas. The city influences seemed to be of at least two very different kinds:

> on the one hand, the greatest effect seems to be on early onset, chronic disorders in children which are associated with severe family pathology. In this instance, the city influences appear to act mainly on the parents and on the family, and only indirectly on the children. On the other hand, there are also a variety of immediate and direct effects on adolescent behavior which operates through both schools and community circumstances (pp. 623-24).

Rutter concluded that the ecosystems in which children live can have an adverse effect on their behavior.

In order to ascertain the ecological factors that were associated with successful residential treatment, Lewis (1982) reviewed a number of studies that followed disturbed children after they were released from treatment centers. He concluded that the children's level of adjustment was not related to improvements made during treatment, but instead, to several ecological system factors. Successful children were found to be different from their unsuccessful counterparts in three ways. First, the successful children's "support-stress" ratio was significantly more supportive at discharge, despite ratings being identical at admission. Secondly, the average number of family contacts while the child was in residence was greater for successful children. Thirdly, the percentage of these contacts that were judged to be positive was also greater. Lewis concluded that ecological support was necessary to maintain growth made by disturbed children and youths in treatment. This conclusion underscores the importance of strong home-school linkages in building effective special education programs.

More recently, Lewis (1988) reaffirmed the importance of a supportive ecology in maintaining gains made during treatment. Data was collected on 106 elementary school-aged children admitted to Cumberland House, a small residential treatment program for behavior disordered children and adolescents. In addition to individual characteristics such as age, sex and type of problem behavior, admission, discharge and followup data was collected on a number of scales devised or adapted from other sources to measure several ecological variables. These scales included:

> The Family Problem Index: a list of six serious family problems: abandonment or divorce by a parent, physical or sexual abuse, family member in corrections, physical illness of a parent that interfered with functioning, family member diagnosed as mentally ill or mentally retarded and family dependent upon public

> housing. Rating was presence or absence or each problem.
>
> The School Climate Rating: a 5-point scale on the following items: ease of access to staff, staff morale, information about student, flexibility in scheduling and other plans, following through on commitments made and physical appearance of building.
>
> Community Resources Rating: a 5-point scale reflecting the family's use of human services, public education, church, health and dental health, mental health, juvenile court, organized recreation and informal recreation resources.
>
> The Mother Behavior Rating and Father Behavior Rating: each on a 5-point scale for items reflecting the setting of limits, use of praise and punishment, expectations of behavior, respect for child's opinions, help in solving personal problems and explaining reasons for decisions and consequences.
>
> Discharge Ratings: a 5-point scale on how well the student was expected to adjust to his home on return, how well he was expected to adjust to school, how much the student had improved during treatment and how much the home situation had improved.
>
> Followup Ratings: a 5-point scale on how well the student was now adjusting to her/his home placement, to her/his school placement, and to what extent s/he still exhibited her/his initial presenting problems. A yes or no response was also given on whether the student had developed new problems since discharge (p. 103).

The results of this study were consistent with Lewis' earlier (1982) investigation that demonstrated that ecological change can occur as a part of the treatment process and is an important factor in later adjustment. More succinctly, increased ecological support and the child's increased capability to meet demands made on her/him by her/his ecology need to occur together to raise the probability of satisfactory adjustment on return to home, school and community. Ratings of improvement in the student's competence, her/his family's supportiveness and expectations of coping well both at home and at school bode well for the child's future (p. 106).

In summary, Lewis (1988) highlighted the importance of liaison work as an integral part of a treatment program for behavior disordered children:

> obviously, we are interested in seeing students learn new skills and behave in more constructive ways during treatment, but our larger objective is that the student will maintain those behaviors after his return home. It appears that this is less likely to happen unless there is effective liaison activity so that the new behaviors will generalize beyond the treatment program (p. 106).

The crucial nature of ecological home-school linkages will be discussed later in this review.

Moos and Fuhr (1982) conducted a single-case descriptive study to investigate the use of ecological concepts to develop interventions for a disturbed, depressed fifteen year old girl. Beth, an only child whose parents were both highly successful in their jobs, had dropped out of school and socially isolated herself from her peers. A therapist assigned to work with the girl found it very difficult to develop a relationship with her, as she continually provided ambiguous information about her academic and socioemotional difficulties. In order to gather data without disturbing the natural interplay of environmental forces, the investigators utilized Bronfenbrenner's (1979) ecological systems format. Briefly, this involved gaining information about each of the components that Bronfenbrenner identified in his conceptual framework, namely the microsystem, the mesosystem, the exosystem and the macrosystem. The authors administered the Social Climate Scales, a series of semi-structured interviews and four structured questionnaires, to the family in two two-hour sessions. Three of the questionnaires, Classroom, Family and Work Environments, consisted of two forms, Real and Ideal. The fourth questionnaire, Health and Daily Living, provided information about other relevant personal and environmental factors such as the family's social activities, stressful life events, social support system and areas of disagreement. Once this comprehensive data-gathering process was completed, Moos and Fuhr were able to conclude that:

> a relatively clear picture of Beth's situation emerges from the foregoing information. Mr. and Mrs. B. were highly committed to and satisfied with their jobs and described their relationship to each other quite favorably. They both worked hard, enjoyed considerable responsibility, and were interested in pursuing their professional careers and obtaining higher level managerial positions. In contrast, Beth was very critical of both home and school. Although the family status quo was satisfactory for Mr. and Mrs. B. in view of their demanding and rewarding work environments, it did not meet Beth's need for parental warmth and support, expression of feelings, or the sense of belongingness that emerges from shared participation in family activities (p.118).

Moos and Fuhr concluded that an ecological perspective helped to establish a connection between a discordant family system and Beth's problematic behavior, as well as to suggest suitable interventions. Further, they indicated that the information derived from ecological assessment procedures can sensitize clinicians to the relevant factors and interrelationships in the micro-, meso- and exosystem influences and to the subtle ways in which such influences can disrupt a workable equilibrium among other environmental systems (p. 121).

From an etiological perspective, Patterson, DeBaryshe and Ramsey (1989) presented an insightful developmental model of antisocial behavior that clearly adopts an ecological orientation. Based on a thorough review of the literature, these researchers offered strong evidence to support the hypothesis that antisocial behavior appears to be a developmental trait that begins early in life and often continues into adolescence and adulthood. Further, they contended that for many children, stable manifestations of antisocial behavior begin as early as the elementary school grades (p. 329). Ineffective parenting practices are specifically viewed as determinants of childhood conduct disorders.

During middle childhood, Patterson, Debaryshe and Ramsey suggested that the conduct-disordered behaviors lead to academic failure and peer rejection. These dual failures, in turn, precipitate involvement in a deviant peer group and delinquent activities during late childhood and adolescence. Figure 2 illustrates this notion.

Focusing on the early to middle childhood years, these investigators identified several ecological variables that influence the family interaction process. These variables are perceived to have negative effects on parenting skill and to correlate highly with the probability of children's antisocial behavior. Specific ecological factors that have the potential to disrupt effective parenting are detailed in figure 3.

From an intervention standpoint, Patterson, DeBaryshe and Ramsey suggested that it seems reasonable to identify children in the elementary grades who are both antisocial and unskilled. These authors noted that successful programs for these children should include three components: parent training, child social-skills training and academic remediation (p. 333). Clearly, these conclusions have direct implications towards the present investigation, in that these same three components are the major underpinnings of the Behavior Management Class program, in which the target subjects are enrolled. Typically, the parents of B.M.C. pupils are influenced by many of the ecological factors associated with ineffective parenting identified by Patterson, DeBaryshe and Ramsey. The next section of this review will examine the application of

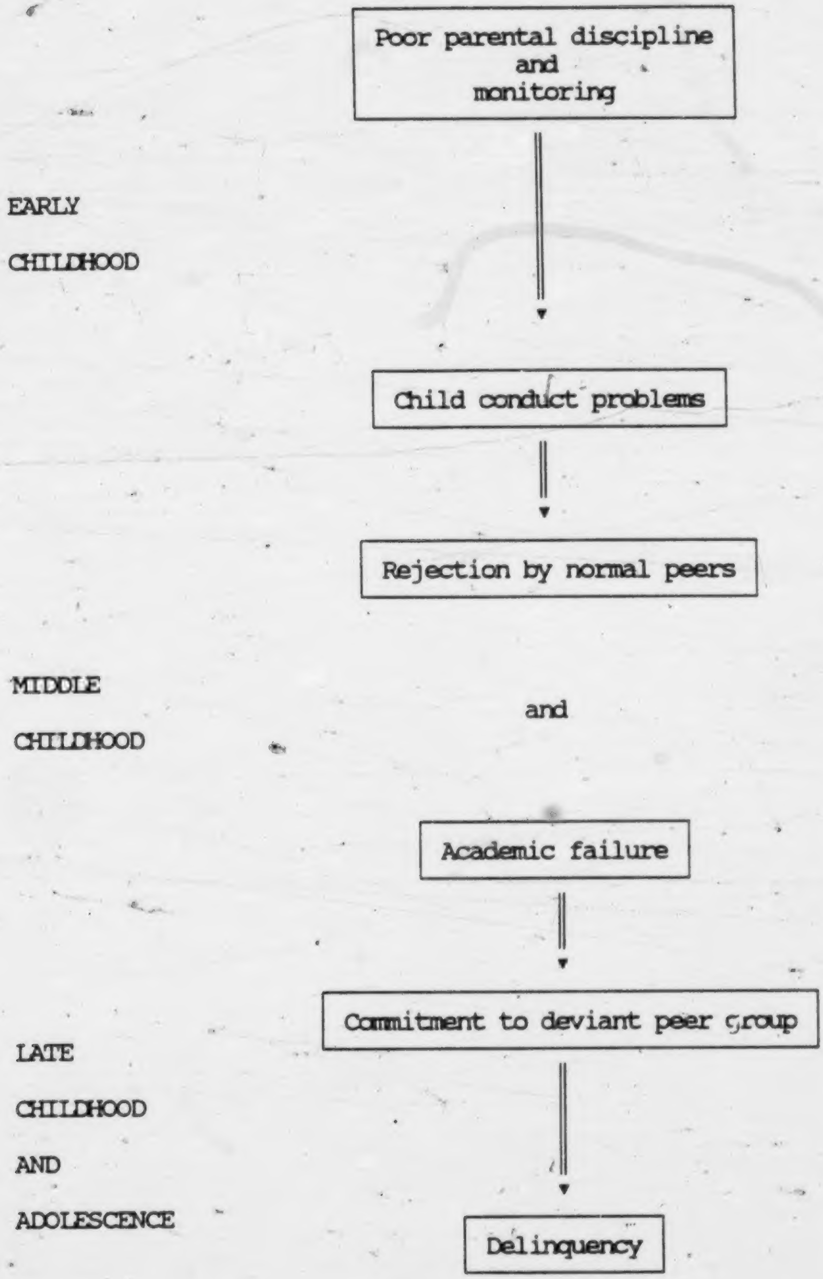


Figure 2
A Developmental Progression For Antisocial Behavior
Adapted From: Patterson, DeBaryshe and Ramsey, 1989, p. 331

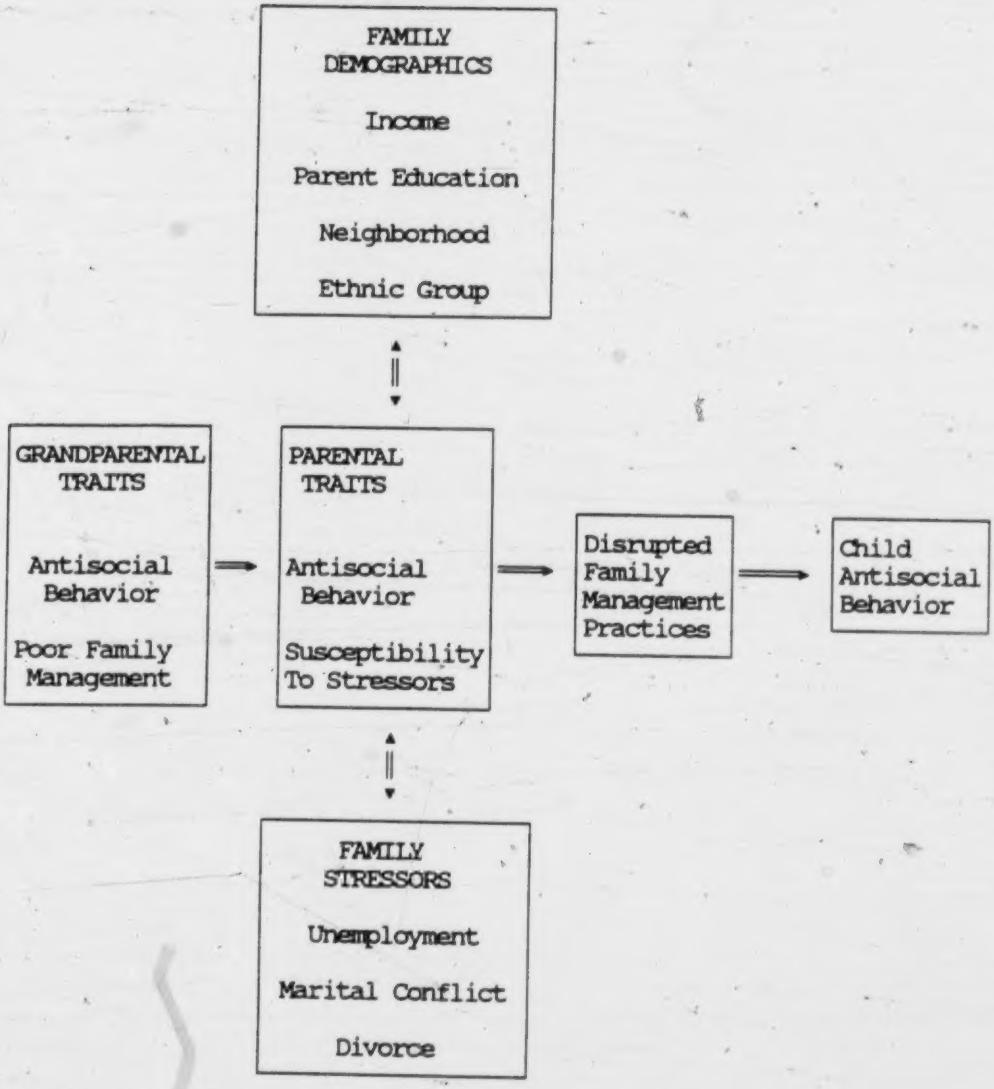


Figure 3
Ecological Factors Associated With Ineffective Parenting
Adapted From: Patterson, DeBaryshe and Ramsey, 1989, p. 333

ecological principles in establishing strong home-school linkages.

Ecological Home-School Linkages

Parents Of Behavior Disordered Children

A diagnosis of an exceptionality is usually a traumatic experience for family members. Kroth (1975) identified eight stages that parents of handicapped children experience in the process of recognizing their child's handicap: shock, denial, guilt, sorrow, withdrawal, fear, overprotectiveness or rejection and, finally, acceptance. Parents of behavior disordered children experience some of the same feelings as other parents, but not necessarily in the same sequence. Some, for example, continue to feel guilty about their possible causal role in the child's problems. Many parents defensively deny that their child has problems. Some blame the school for their child's behavioral problems or at least for not solving the problems. In other cases, the parents refuse to accept any responsibility for their child's behavior and angrily withdraw from involvement with school officials:

> if my son misbehaves at school, it's the school's problem... you're paid to deal with these things, so don't go calling me every time that Calvin acts up! (Anonymous Parent)

Although all parents of exceptional children face some degree of loneliness in raising their children, parents of behavior disordered children have the added burden of the social stigma associated with emotional and behavioral deviance. The behavior problems exhibited by these children are commonly, although often incorrectly, viewed as a reflection of inadequate parenting. Even when the existing evidence points strongly in this direction, it is often the case that parents encounter life experiences and stresses over which they may have little control. In any case, the assignment of blame is fruitless (Rizzo and Zabel, 1988, p. 318). A clear reflection of this social stigma is the absence of any provincial or national advocacy organization for parents of behavior disordered children, such as those that have been formed for the parents of learning disabled, mentally retarded and physically handicapped children.

Characteristically, these parents experience the same feelings of guilt, self-blame, remorse and apprehension when they have to deal with school authorities. They frequently prefer that others not know that their child is in a special classroom for behavior disordered pupils. In fact, many parents feel reluctant to discuss their child's educational progress or to become actively involved in a home-school program (Larson, 1987).

These parental feelings of isolation, loneliness and social stigma often result in the interaction between home and school being both limited and negative in tone. A dysfunctional home-school relationship represents a major obstacle towards the maintenance and generalization of gains made by behavior disordered children in special education programs. For instance, Walberg (1972) noted that, "a general propensity to be a delinquent and to be apprehended is negatively associated with: frequency of school talks with parents, frequency of positive contacts between home and school and the amount of scheduled study time" (p. 295).

Building strong ecosystems should be the ultimate goal of intervention with troubled children. As Apter and Goldstein (1986) stated, "linkages between various aspects of each child's world are seen as critical elements, not as "fringe extras" to be considered if time allows, in the development of successful special education programs" (p.144). Increasingly, research (Lewis, 1982, 1988) indicates that the single most important determinant of success for troubled children is the quality of the linkages between the intervention program and home supports. Empirical support for the need to establish ecological home-school linkages will now be presented.

Establishing Ecological Home-School Linkages

A growing body of professional literature has affirmed that parental participation is an indispensible ingredient of academic excellence (Epstein, 1987; Turnbull, 1983). Over the past twenty years, the results of several studies (Cone, Delawyer and Wolfe, 1985; Lillie, 1975; Schaefer, 1972) have revealed that an active parent-school partnership can contribute not only to the enhancement of the educational performance of students, but also to the improvement of parenting skills and family life.

To determine the level of home-school involvement in a large, urban public school system, Yanok and Derubertis (1989) surveyed 1702 randomly selected parents of regular and special education students. The number of special education parents surveyed (n = 163) approximated the percentage of students in the school district that were currently receiving special education services. While the vast majority of both regular (80.0%) and special education (77.9%) parents viewed education as a shared responsibility of parents and the school, it was determined that the latter group were significantly more likely to be contacted by a teacher to discuss their child's progress. In addition, only a minority of regular (23.8%) and special education (33.3%) parents were contacted by teachers and/or school administrators to request their involvement in educational activities with their child. Finally, less than 12% of either parental group actually participated in a school-based activity or committee during the term.

Noting the significant difference in teacher contacts received by regular and exceptional parents, Yanok and Derubertis observed that the educational involvement of the latter group of parents was not enhanced by the greater number of contacts. They attributed this incongruous finding to the fact that most exceptional parents conceivably have concluded that they are ill prepared to address the special learning needs of their children. Hence, out of frustration or despair, they may have chosen to relinquish any additional responsibility for their child's education (p. 198).

The researchers also hypothesized that this avoidance behavior by parents of exceptional children may be reinforced by the attitudes of the special educators themselves. Citing findings reported by Yoshida, Fenton, Kaufman and Maxwell (1978), Yanok and Derubertis agreed that the predominant view expressed by special educators participating in I.E.P. meetings was that parents of exceptional children lacked sufficient expertise to be involved in making educational decisions. The investigators commented that the existence of such aloof, elitist attitudes among professionals must be expunged if a truly productive parent-school partnership ever is to emerge within special education (p. 198).

In conclusion, Yanok and Derubertis strongly recommended that special educators strengthen the linkage between school and family. It was their expressed view that parents of the handicapped and nonhandicapped alike must be persuaded to become active participants rather than passive observers of their children's education.

Fuqua, Hegland and Karas (1985) expressed this same sentiment based on research that they conducted involving the linkages between preschool classrooms for handicapped children and home. These researchers concluded that direct informal and personal interactions between home and school not only facilitated dual-directional communication, but also enhanced teacher appreciation of parental involvement. Teacher-directed parent support groups (Phillips, 1985) and home-based teaching programs were cited as examples of successful approaches used by special educators to strengthen home-school linkages. Such conventional channels of communication as school conferences with individual parents, telephone calls or letters were found to be far less effective means of enlisting parental participation.

From a slightly different perspective, McCarney (1986) examined the preferred types of home-school communication of a large sample of teachers and parents of behavior disordered pupils. Respondents were asked to rate their preferences among twenty potential types of parent-teacher involvement and communication. Significant differences existed between the two groups on half of the items presented. Among parents, the five most preferred forms of communication, in order, were:

* telephone calls from teacher to parent (93.9%)

* report cards (90.4%)
* parent-teacher conferences at the school (88.5%)
* telephone calls from parent to teacher (86.5%)
* student's work sent home by teacher (84.9%)

In comparison, teachers preferred:

* parent-teacher conferences at the school (95%)
* telephone calls from teacher to parent (94.5%)
* I.E.P. meetings (92.9%)
* telephone calls from parent to teacher (84.9%)
* parent-teacher conferences including the student (80%)

The researcher observed that both telephone communication and parent-teacher conferences are mutually valued forms of home-school communication. Teachers, however, did not view either report cards or students' work sent home by the teacher, as highly as did parents. The two groups also differed concerning the value of I.E.P. meetings and parent-teacher conferences which involved the student; parents preferred both of these types less than teachers.

McCarney also reported that parents' least preferred forms of communication were:

* parent-teacher conferences at home (51%)
* parent-group meeting (51%)
* parent-teacher conference including other adults (44.2%)
* PTA meetings (38.9%)
* parent-teacher meetings other than at home or at school (38.8%)

According to the teachers of behavior disordered pupils, the five least preferred types of communication were:

* parent-teacher meetings other than at home or at school (47.8%)
* parent-group meetings (45.8%)
* parent classroom observation (45.7%)
* parent drop-in meeting with the teacher (39%)
* PTA meetings (23%) (pp. 121-22).

McCarney concluded that parents and teachers do agree on some of the most and least useful types of home-school communication, but they also disagree on some others that have great potential for improving parent-teacher relations and enhancing student's home and school success. The investigator could not determine whether the rated preferences were based on actual experiences using the types of communication or whether they were simply speculations on potential forms of communication. McCarney stated that some types may not have been preferred because the respondents had no experience with them. He also concurred with the summation offered by MacMillan and Turnbull (1983) that suggested that some parents of exceptional children prefer limited involvement with the school even when they believe it will benefit themselves, their child or their family (p. 8).

Stressing the importance of ecological linkages, Bronfenbrenner (1986) stated that the relationship existing between the family and the school is a powerful factor affecting the capacity of a child to learn in the classroom. However, he added that the majority of investigations that have addressed this interface are descriptive rather than analytic. Bronfenbrenner acknowledged a lack of process-oriented field studies or experiments that trace the effects of school experiences on children's functioning within the family (p. 735).

More recently, Power and Bartholomew (1987) analyzed family-school relationships using an ecological/systemic model which incorporated an ethnographic perspective. Following an indepth examination of five family-school relationship patterns, these researchers concluded that the maximum effectiveness of school-based behavioral intervention programs for disturbed children depends upon the degree of interfacing between the two most important contexts in a child's life - home and school. Reiterating Bronfenbrenner's earlier

(1986) statements, Power and Bartholomew also noted the paucity of research on ecological home-school linkages and suggested that future investigations explore this area in greater detail. The final section of this literature review will examine the efficacy of several different forms of peer-mediated interventions.

Peer-Mediated Interventions

Introduction

From a context of confirmation, the final section of this review will summarize and critically evaluate the current status of the use of children as therapeutic change agents. Specifically, the results of several recent investigations that utilized peer confrontation, peer monitoring and peer facilitator procedures as independent variables will be presented. In addition, the ecological efficacy of these approaches will be discussed in terms of the broad-based intervention model proposed by Kazdin (1987). To help gain an initial sense of perspective on peer-mediated interventions, the following section will briefly review the rationale underlying this approach.

Rationale

As Apter and Goldstein (1986) noted, "there are no "silver bullet" remedies to disturbed social behavior" (p. 12). However, recent interest and impetus for casting peers in the role of therapeutic change agent can be linked to several factors. First, recent research findings suggest that adult-centered programs often fail to demonstrate long-term treatment effectiveness (Kazdin, 1984). Second, peers may be able to monitor and provide consequences for a target child's behavior more continuously and contingently than a teacher, whose attention is divided across an entire class of students (Smith and Fowler, 1984; Strain, Cooke and Apolloni, 1976). Third, in the absence of an attentive adult, children can positively influence peers' behavior in a variety of settings (ie. recess, lunchroom, restroom, hallways) (Strain, Gable and Hendrickson, 1978). Fourth, the mere presence of a peer who has served as an intervention agent may cue classmates to engage in desired behavior and may facilitate maintenance of their behavior following termination of the intervention program (Smith and Fowler, 1984). Finally, peer-mediated intervention may actually be preferred by the target child (Smith and Fowler, 1984). The remainder of this review will critically evaluate the empirical status of three specific categories of peer-mediated interventions: peer confrontation, peer monitoring and peer facilitator programs. Descriptions of threats to both internal and external validity of each study are included in Appendices B and C, respectively. Table I highlights the major findings of the research investigations associated with each category of peer-mediated treatment. A more comprehensive examination of each investigation follows.

Peer Confrontation Interventions

Bellafiore and Salend (1983) investigated the use of a teacher-directed peer confrontation system designed to decrease the inappropriate verbalizations of a targeted seven year old male subject and two nontargeted male peers (aged five and six years). All of the subjects of the study were enrolled in a self-contained special

TABLE I

MAJOR FINDINGS ASSOCIATED WITH
THREE CATEGORIES OF PEER - MEDIATED TREATMENT

PEER CONFRONTATION	
Investigation	Major Findings
Bellafiore & Salend (1983)	Target subjects' inappropriate verbalizations decreased; positive vicarious effects on the behavior of two non-target subjects were also noted.
Hoover (1984)	Showed a significant reduction in antisocial, criminal behaviors in 3 of 4 categories reported, following a peer confrontation program involving 150 inner-city secondary school pupils. Subjects also demonstrated a positive trend towards less violence, better grades and a lower dropout rate.
Sandler, Arnold, Gable & Strain (1987)	Significantly reduced the disruptive behavior of three middle-schoolaged children who were dually diagnosed as behavior disordered/mentally retarded.

TABLE I (Continued)

MAJOR FINDINGS ASSOCIATED WITH
THREE CATEGORIES OF PEER - MEDIATED TREATMENT

PEER MONITORING	
Investigation	Major Findings
Dougherty, Fowler & Paine (1985)	Significantly reduced negative recess interactions during three treatment conditions: adult, peer, and self-monitoring. Target subject's disruptive behavior was also reduced while acting as a peer monitor.
Fowler, Dougherty, Kirby & Kohler (1986)	Three disruptive seven year old boys immediately decreased their own rates of negative interactions during sessions in which they were appointed as peer monitors. Two of the boys concomitantly increased their rates of positive interactions. Their reductions in negative interactions were not maintained during reversals and did not clearly generalize to the morning or afternoon recess periods. Subsequent appointment of the boys as peer monitors during the morning recess produced similar improvements in behavior.
Odom & Strain (1986)	Peer-initiation procedure reliably increased the social responses of 3 four year old autistic subjects; teacher-antecedent condition increased the initiations and responses of the subjects. Longer chains of social interaction occurred during the teacher-antecedent condition.

TABLE I (Continued)

MAJOR FINDINGS ASSOCIATED WITH
THREE CATEGORIES OF PEER - MEDIATED TREATMENT

PEER MONITORING	
Investigation	Major Findings
Sainato, Maheady & Shook (1986)	Three socially withdrawn kindergarten subjects, placed in a classroom manager's role: significantly increased the frequency of their positive initiations during free-play time; were the recipients of many more positive and significantly fewer negative bids from their peers; were rated more favorably by their peers on a sociometric rating scale and were selected more frequently as best friends by classmates.
Strain & Odom (1986)	Reviewed outcome data of several previous investigations using the social initiation intervention technique. Extensive evaluations revealed no negative side effects on peer confederates and increases in social responding, social initiations and length of exchanges for target children.
Smith & Fowler (1984)	Experiment 1: Teacher and peer monitored interventions were successful in decreasing disruption and increasing participation of behavior disordered kindergarten subjects. Experiment 2: Peer monitors successfully initiated a token system that reduced disruptive behavior without prior adult implementation.

TABLE I (Continued)

MAJOR FINDINGS ASSOCIATED WITH
THREE CATEGORIES OF PEER - MEDIATED TREATMENT

PEER FACILITATOR	
Investigation	Major Findings
Bowman & Myrick (1987)	Findings revealed significant differences between experimental and control groups of primary grade subjects on variables of classroom behavior (Walker Problem Behavior Checklist) and school attitude (Primary School Student Attitude Test) following participation in a peer facilitator program with grade five pupils. Readministration of the two instruments following an eight-week followup period indicated some regression of group means, but significant differences between experimental and control groups continued.
Rashbaum-Selig (1976)	Described how 35 grade six pupils were trained as school traffic patrols/peer facilitators to modify the disruptive behavior of a single grade two pupil. Significant positive changes in the target subject's behavior were observed following a four-month intervention period.
Ross & McKay (1976)	Examined the treatment outcome effects of a peer facilitator/therapist program on 15 institutionalized adolescent girls. In contrast to other treatment approaches, the peer facilitator group demonstrated the lowest recidivism rate (6.6%), during a nine-month treatment followup period.

education class for behavior disordered children with mild mental handicaps.

Using a reversal design, the study called for behavior disordered classmates to a) identify problem behavior, (b) specify why a particular behavior was a problem, and (c) indicate what changes were appropriate. With each step, a peermate was chosen to respond. Both the teacher and the target subject's peers verbally reinforced the student for accepting and engaging in alternate responses suggested by classmates. Two trained observers collected frequency data on the number of inappropriate verbalizations made by the target subject and two of his nontargeted peers during eighteen 30-minute sessions. Interrater reliability ranged between 85% and 96%, with a mean of 92.4%

Results of this investigation indicated that the target subject's inappropriate verbalizations decreased significantly at the $p <.05$ level when the intervention was applied. Vicarious effects of the treatment on the nontargeted subjects were noted, in the form of similarly reduced disruptive behavior.

Bellafiore and Salend noted that the observed treatment effects may have been related to several factors. Specifically, the peer attention and pressure that was delivered contingent upon the occurrence of inappropriate behavior may have served as an aversive stimulus that decreased the likelihood of the inappropriate behavior occurring. In addition, the researchers suggested that the peer pressure side effects felt by the target subject would likely have been minimized had the intervention been applied to all the students in the class rather than just the one targeted subject. Finally, Bellafiore and Salend postulated that the problem-solving aspect of the peer confrontation procedure, in which peers provided the target subject with acceptable positive behavior alternatives to the inappropriate behavior, may have magnified the effectiveness of the procedure. However, the researchers concluded that their findings lent empirical support for the peer-oriented treatment model, Positive Peer Culture, originally formulated by Vorrath and Brendtro (1974) and later updated by Savicki and Brown (1981). In summary, they suggested that the peer confrontation procedure may be applied in a number of special education class settings (p.279).

The conceptual conclusions reached by Bellafiore and Salend (1983) appear to be consolidative in nature, in that they support other research findings concerned with the significant effects of the peer confrontation intervention on behavior disordered children (Carducci, 1980; Goldstein et al., 1978; Schaefer, 1980). Interpretation of these results is notably short-term and definitely merits further investigation. Analysis of the results reached clearly suggests that factors other than the use of the reported intervention technique may underlie the behavioral changes observed in the target subject. Bellafiore and Salend recognized some of the limitations of their research and suggested additional research strategies to increase the testability of the hypotheses put forth in the present study. However, their conclusion regarding the applicability of the peer confrontation procedure to other special education settings appears to be overly ambitious. Given the above-mentioned limitations, as well as those that follow, this level of analysis and inference appears to exceed the boundaries of this study.

The significance of the investigation appears to be further limited by several additional factors. First, the researchers do not indicate whether the target subject was chosen at random from among his classmates or whether he was selected because of the relative severity of his inappropriate behavior. Conversely, he may have been chosen because of the comparatively mild nature of his behavior. Further, the subject may have been selected because he was more amenable to treatment than his peermates. Secondly, it would have also been interesting to determine, through use of a sociometric technique, the social status of the target subject. No indication was given whether he was, perhaps, low in social status and therefore more easily influenced than his peers. Third, the specific setting in which the study was conducted, a classroom, may limit the ability of the researchers to generalize their findings to other less structured situations. It is questionable whether the same results would be obtained had the intervention taken place in another setting, such as the playground or lunchroom, that was not supervised by an adult.

Fourth, the researchers failed to specify either the time of day or the type of classroom activity that was taking place during the intervention period. For instance, it is difficult to ascertain whether the intervention would have been equally effective during individualized seatwork, phys. ed. activities and small group discussions. Fifth, the researchers did not collect behavioral data on the behavior of all the pupils in the classroom during the course of the investigation. It is not known, for example, if the levels of inappropriate behavior of some of the pupils may have actually increased during the exact time that the intervention was being administered to the target subject. Finally, the measurement of the dependent variable in this study, the number of inappropriate verbalizations made by the target subject, appears to be both unidimensional and quite limited in scope. Several dimensions of problem behavior identified by Mace (1984) were not addressed in this investigation. Specifically, no attempt was made to measure the intensity, duration or celeration of the target subject's inappropriate verbalizations. Similarly, it is unknown whether an increase in physical aggression, for instance, paralleled the target subject's reduction of inappropriate verbalizations. In essence, it appears that the research conducted by Bellafiore and Salend may have raised a great deal more questions about reducing the occurrence of problem behavior in the classroom than it answered.

Recognizing some the short-comings of the above-mentioned investigation, Sandler, Arnold, Gable and Strain (1987) conducted a similar study involving the peer confrontation intervention. Specifically, they investigated the effects of this treatment on the disruptive classroom behavior of three middle-schoolaged children who were dually diagnosed as behavior disordered/mentally retarded. All three students had received special education services throughout elementary grades and were assigned to a self-contained special classroom. Three behaviors were targeted for Subject A, a nine year old male student: insulting verbalizations, insulting gestures and verbal or gestural threats of aggression. The target behavior for Subject B, an eleven year old male, was off-task verbalizations. Noncompliance was the target behavior for Subject C, an eleven year old female student. Records indicated that Subjects A and B had a measured IQ of 69 (W.I.S.C.-R.), while that of Subject C was 73 (Peabody Picture Vocabulary Test). Academically, all three were performing substantially below their age-expectancy level, with scores obtained on the Wide Range Achievement Test falling in the 1.5 to 2.0 grade range.

The study was conducted in the students' classroom during three 30-minute sessions: (a) session 1 - 9:15 to 9:45 a.m.; (b) session 2 - 12:45 to 1:15 p.m.; and (c) session 3 - 2:30 to 3:00 p.m. There were a total of eight students in the class, ranging from eight to twelve years of age.

A reversal design (Kazdin, 1984) was used to assess the effects of the intervention on Subject A. An AB design was employed for both Subject B and Subject C, as limitations related to the end of the school year did not permit a return to baseline. During phase one of the study, intervention was provided to Subject A during the first of three daily observation intervals only, while baseline data were collected during the other two daily intervals to determine if generalization would occur across instructional sessions. Baseline data were also collected on Subjects B and C during all three intervals during this phase of the study to determine if generalization would occur across subjects. During phase two, intervention was provided to all subjects during all three intervals.

Frequency data was collected on all three subjects during each 30-minute session of the study. The classroom aide and a special education graduate student were trained as observers. The occurrence of target behaviors was noted manually by recording a slash beside the appropriate category on the data collection form. Interrater reliability data was collected during approximately 25% of the sessions. Mean interobserver agreement ranged between 91.25% and 99.63% for all three subjects.

Adult participants in the study included the classroom teacher, the classroom aide trained as the primary observer, and a second trained observer who collected the reliability data. Observation interval one occurred during the morning group time. All students were gathered in one area of the classroom and seated in a circle. One student led the group each day. Throughout the study, Subjects A, B and C took turns as leaders. Interval two took place during an independent work time, when the students were expected to remain seated, work independently and raise their hands if they required assistance. Finally, interval three was conducted during group-individualized instruction, during which time the students remained at their desks and engaged in group worksheets, educational games and films.

The intervention procedure was a teacher-directed peer confrontation procedure identical to the one earlier employed by Bellafiore and Salend (1983). The intervention was applied over 44 sessions for Subject A and over 40 sessions for Subjects B and C.

Results of the peer confrontation procedure indicated that a significant reduction in the behaviors targeted for Subject A occurred when the intervention was applied during the first of three daily observation intervals. Similar decreases were noted during the other two observation periods. A significant reduction in the mean number of targeted behaviors for Subjects B and C paralleled these findings. Interestingly, data collected for the purpose of evaluating the generalization of treatment effects suggested a mild degree of generalization across both observational intervals and subjects. A decrease in the behaviors targeted for Subject A occurred during observation intervals two and three, when intervention was provided during interval one only. A decrease in the behaviors targeted for Subjects B and C also occurred when only Subject A received the intervention procedure.

Sandler et al. (1987) concluded that the peer confrontation procedure may be an effective method of modifying the problem behavior of behavior disordered middle-schoolaged children. The researchers acknowledged that the failure to institute a withdrawal of treatment for two of the subjects was a major limitation of their study. They strongly recommended that this situation be altered in future research efforts. In summary, Sandler et al. suggested that under the supervision of a skilled special educator, peers trained to assist classmates with behavior problems may represent a useful means of reducing the incidence of problem behavior.

From a functional perspective, Sandler et al. inferred that their findings gave credence to the theory of peer confrontation (Savicki and Brown, 1981; Vorrath and Brendtro, 1974) and "also added to its limited empirical support" (p.109). Unlike Bellafiore and Salend (1983), these researchers presented a parsimonious view of their results by stating that despite the observed treatment effects, reapplication of the intervention techniques should be approached with caution. In this respect, their study can be described as having consolidative significance. It provided empirical support for the findings of the Bellafiore and Salend investigation, yet did not appear to break an inordinate amount of new research ground.

Due to their inability to measure the durability of treatment effects, however, Sandler et al. strongly recommended that this issue be examined in future research efforts. Overall, their succinct description of the subjects, setting and procedures employed in this investigation increased the future testability of the effectiveness of the peer confrontation intervention.

Hoover (1984) examined the effects of the peer confrontation model, known as the Peer Culture Development Program (PCD), on fifty inner-city Chicago secondary school pupils. Program evaluators reviewed the school records from the previous academic year to identify pupils who had failed at least three classes the previous semester, had been referred for disciplinary reasons on at least three occasions, were involved in at least five reported fights at school and who had been absent for at least thirty classes. The fifty experimental subjects were randomly selected from a list of over two hundred students who met the above-mentioned program eligibility criteria. Fifty other students who had also been identified in the early screening, but who could not participate in the PCD program because of scheduling conflicts or lack of space, served as the control group.

Seven measures were used to detect the impact of the PCD program on the experimental subjects. Specifically, data was collected on the subjects' grades, attendance, suspensions, dropout rate, criminal activity (as evidenced by police reports), attitudes towards substance abuse and attitudes toward the atmosphere of the school. A two group pretest-posttest design was employed by the researchers.

The experimental subjects were divided into four, single-sex, heterogeneous groups, composed of between 12 and 15 pupils. Heterogeneity referred to race, grade level and academic ability characteristics, as well as to the various behavioral characteristics of the pupils. These groups became regularly scheduled PCD classes that remained intact for the five month duration of the study. The pivotal activity of the program was the group meeting. The structure of the meeting consisted of identifying priority problems of group members, verbal peer confrontation of individual pupils and the generation of potential solutions.

Hoover reported significant reductions in criminal activities, school days and classes missed, as well as better grades in the experimental group. Analysis of the data in the remaining three variables measured revealed no significant differences between the experimental and control groups.

Unfortunately, Hoover (1984) provided only a cursory description of the independent variable in this study. This fact not only reduced the testability of the peer confrontation construct, but also significantly limited the possibility that this study could be replicated in the future. The researcher failed to make mention of previous peer confrontation intervention studies and made no attempt to demonstrate any consolidative significance that the study may have had. Further, Hoover offered no direction for future research efforts involving the PCD intervention. Therefore, for all intents and purposes, this research effort appeared to be little more than a localized program evaluation study. Hoover seemed to use the peer confrontation model solely to direct the empirical research undertaken in this study. Clearly, no attempt was made to verify, alter or provide explanatory provisions for the model itself. Hoover did, however, infer that the peer confrontation intervention was the underlying mechanism for the observed changes in the dependent variables of the study. The next section of this review will examine research associated with peer monitoring interventions.

Peer Monitoring Interventions

In reviewing the previous research literature concerned with peer-monitored programs, Smith and Fowler (1984) concluded that, in most prior studies, the peer who intervened was either more skilled (Egel, A.L., Gina, R. & Koegel, R.L., 1981; Greenwood, C.R., Hops, H., Delquardi, J. & Walker, H.M., 1974) or older (Robertson et al., 1976; Trovato and Butcher, 1980) than the peer receiving intervention. Therefore, they chose to examine the effectiveness with which kindergarten-aged children with serious behavior and learning problems implemented and responded to both a teacher-monitored and a peer-managed token program. In a second experiment, these researchers assessed the accuracy with which the peer monitors awarded points for participation and withheld points for disruption during a daily transition and cleanup activity.

The first experiment was conducted in a remedial kindergarten class, containing eight children, ranging in age from five to seven years. All of the children exhibited behaviors that had interfered with their performance in a regular class setting. Referral problems ranged from shyness to oppositional and disruptive behaviors. While the entire class participated in all phases of the study, observational data was collected on only three subjects, C1, C2 and C3. These three children were identified by the classroom teacher as being the most disruptive during transition periods. C1 exhibited a severe language delay and oppositional behavior and received daily medication for grand mal seizures. C2, who had repeated kindergarten, also exhibited a severe language delay and a high rate of oppositional behavior. C3 demonstrated developmental delays and noncompliant behavior. Checklist ratings were obtained with the remaining five children, who were similar in general functioning to the three primary target subjects.

The study was conducted Mondays through Thursdays in the kindergarten classroom and in the hallway and washrooms located near the classroom. Data was collected during a transition period in which the children cleaned up the classroom learning centres, used the washroom and then waited in the classroom on individual mats for a large-group activity to begin. The transition period typically averaged 9.5 minutes in length, but could range from 7 to 14 minutes. One teacher was present throughout the transition.

Trained observers used a 5-second continuous interval observation code to collect the data. Child behaviors were coded as either "participation" or "disruption". In addition, all students were rated individually by the observers, using a checklist, at the end of the transition period. The behavior of each student was rated as either "acceptable" or "unacceptable". Teacher statements were tape-recorded during the observation period and later scored as either a "prompt" (teacher directed either a target child or a group of children to participate appropriately in the transition period, or to cease inappropriate or disruptive behavior). or as "praise" (teacher commented favorably on a child's performance).

An ABAC design was implemented to determine if a token reinforcement system implemented first by the classroom teacher and subsequently by the target subjects appointed to be peer monitors, would reduce disruption and increase participation during the transition period.

During the initial three sessions, the teacher described the token system, role played appropriate transition behaviors and quizzed the children to ensure that they understood the behaviors. In addition, C1, C2 and C3 participated daily in brief (1-2 minute) training sessions in the hallway or in the classroom to remind them of the rules and to allow them to role play potential transition situations. Children were then daily assigned to different teams and directed to clean one area of the classroom, to go as a group to the washroom and to wait quietly on individual mats after they returned. Each child in the class received one point for appropriate transition behavior. The points were awarded publicly by the teacher at the end of the transition period and could be used to be eligible for daily outdoor activities.

Following the teacher-implemented token system, a reversal to the baseline condition was conducted. No points were assigned during this phase.

The point system and backup reinforcement activities used during the teacher-monitored condition were reinstituted during the peer-monitoring phase. Children were eligible to be monitors if they had received three points the previous day. Their names were placed in a lottery from which three names were drawn. All children were appointed as monitor at least once, with the exception of C3, who was eligible on at least two occasions, but never had his name drawn. Each day the three peer monitors were instructed to participate in the transition, to watch their teammates, to remind them of appropriate behaviors and to award points for their participation. At the end of the transition period, each peer monitor awarded points publicly to his or her team members and to themselves. The teacher assisted the peer monitor in the point award by asking the monitor if the team members had appropriately fulfilled the three transition responsibilities. To determine if the peer monitors would award points contingent upon appropriate behavior, the teacher was instructed not to correct children who awarded points inaccurately (ie. gave point to children who had behaved inappropriately).

Results of the experiment revealed that both teacher- and peer-monitored interventions were successful in significantly decreasing disruption and increasing participation of monitored peers. Interestingly, the teacher presented the highest number of prompts during baseline and decreased steadily to its lowest point during the peer-monitored condition. The rate of teacher praise was highest during the teacher-monitored and peer-monitored phases of the study.

In order to determine whether peers could introduce and monitor the token system with a prior teacher-monitored condition, Smith and Fowler conducted a second, very similar experiment. In the latter investigation, three kindergarten children were again chosen from a self-contained remedial class consisting of nine pupils. Two of the target subjects, C5 and C6, were chosen because they were highly disruptive during transition periods. The other child, C4, was selected because she participated in transition activities at a very low rate. Definitions of child participation and disruption were the same as in the first experiment. Following the initial training session, two peer-monitored conditions were implemented, each in a multiple baseline design across the three target subjects. The first called for the teacher to provide corrective feedback during peer-monitoring regarding the accuracy or inaccuracy of point awards and losses. In the second condition, the teacher ceased to provide corrective feedback.

Results of the second experiment indicated that the implementation of the first peer-monitored condition quickly and significantly reduced the problem behavior of the three targeted subjects. Comparable low rates were maintained in the subsequent condition when no corrective feedback was provided by the teacher regarding the monitor's accuracy in awarding points. Similarly, the peer-monitored token system concurrently increased desirable rates of participation for the three target children. The three children also maintained these high levels of participation during the peer-monitored condition when no corrective feedback was provided.

Smith and Fowler concluded that peer monitors were able to implement the procedure without a prior adult-monitoring condition, at least when provided with corrective feedback from the teacher. Further, they suggested that once the procedure is established, children can administer it, independent of teacher feedback.

Through an analysis of the point awards made, the researchers found that the peer monitors were fair in awarding points that were earned. Interestingly, however, the peer monitors consistently failed to withhold points for undesirable behavior. This situation appeared to have little effect, however, as the incidence of disruptive behavior did not increase. Smith and Fowler indicated that the failure by the peer monitors to withhold points could have been due to several factors, including observational inaccuracies, different definitions of inappropriate behavior and friendship issues. In essence, they hypothesized that the intermittent schedule of point withholdings was critical to the success of the procedure.

Clearly, Smith and Fowler conducted these inductive investigations in the absence of any formalized theory concerning peer-monitored interventions. The researchers distinctly identified a need for additional research before any attempt should be made to extrapolate their findings to other populations of exceptional and regular children in other settings. Specifically, they cited the generality and durability of the observed treatment effects as areas that require much further investigation. In essence, these directions for future research seem to have more than adequate testability. Both the innovative significance and heuristic qualities of the Smith and Fowler investigation are evident in the number of additional research efforts that followed it. A discussion of several current examples of this trend follows.

Dougherty, Fowler and Paine (1985) analyzed the effectiveness of a peer-monitored intervention, using the RECESS program, a token system, treatment package designed for remediating negative and aggressive behavior on playgrounds. They were specifically interested in assessing the extent and manner in which peer monitors change their own behavior, as well as the relative durability and generality of effects produced with peer mediation.

Dennis (9 years, 10 months old) and Ed (10 years old) were the primary target subjects studied. They were both enrolled in a primary level, educable mentally handicapped class. Screening observations verified that both boys exhibited higher than normal rates of negative and aggressive behavior towards their peers and that they regularly broke many playground rules. Six classmates served as peer monitors for Dennis during certain phases of his morning and afternoon recesses. These children were chosen on the basis of teacher and peer ratings. Teachers either recommended them as typically compliant to adult instructions or Dennis rated them as preferred playmates on a sociometric scale administered twice, prior to the study.

Observational data was collected during morning, noon and afternoon recess periods on the school playground. Follow-up observations of Dennis and Ed took place the following year on a similar playground assigned to intermediate grade children.

During this investigation, the researchers used both a 5-second interval observation code and a consumer satisfaction rating scale to gather data from the peer monitors. Five observers, including the first author, collected interval data scored in the following categories: negative interactions with peers, positive interactions with peers, rule infractions, negative initiations or responses from peers, praise, point loss and bonus point award. Interrater reliability estimates were consistently in the mid-80% range.

The effects of the RECESS program in reducing negative interactions were demonstrated using a multiple baseline design across

Dennis' morning and afternoon recesses and Ed's noon recess. In essence, Dennis was given five different progressive levels of the intervention: consultant (first author acted as a monitor for Dennis' behavior), recess supervisor (two classroom teachers served as monitors), peer monitors (peers served as monitors), appointment as peer monitor (Dennis monitored Ed at noon) and self-monitoring (Dennis and Ed monitor themselves). Follow-up data was collected for one week, in September of the new school year, three months after intervention had ceased.

Results of the study clearly indicated that Dennis' negative interactions were significantly reduced in three daily recess periods. Reductions achieved during the initial adult monitoring phase at the morning recess period were maintained during two subsequent conditions: peer monitoring and self-monitoring. Dennis' negative interactions were also significantly reduced during the afternoon recess by peer monitors. Again, reductions were maintained during a subsequent self-monitoring condition. Finally, during the noon recess, Dennis' rate of negative interactions quickly decreased, following his appointment as a peer monitor for Ed. Ed's rate of negative interactions was also maintained during his self-monitoring phase. Data collected also revealed that monitors consistently indicated on the consumer satisfaction scale that they liked being a monitor, liked giving points, but did not like withdrawing points.

The extent to which treatment effects generalized across the three daily recess periods differed for Dennis and Ed. Dennis did not generalize his improved behavior from one recess to another; his rate of negative interactions remained high and variable in each recess until intervention in that recess. In fact, before an intervention was implemented in the afternoon and noon recesses, he was over heard remarking to a peer, "I don't need to behave now; there aren't any points in this recess" (p.151). The researcher suggested that Dennis' comment and his lack of generalization across settings were a sign that some form of contingency was necessary for his behavior to change. In contrast, Ed's negative interactions gradually declined in the afternoon and morning recesses, following his significant reduction in negative interactions during intervention in the noon recess. The authors did not offer any definite explanation for this situation.

Follow-up data, collected three months later, showed an increase in both Dennis' and Ed's rates of negative interactions. Although these increases were well above treatment rates, they remained below the preceding year's baseline averages, for the most part.

Dougherty, Fowler and Paine (1985) concluded that the reduction in problem behavior exhibited by the children who assumed the role of peer monitor was the most significant effect observed during this investigation. In fact, the researchers strongly suggested that the generality of this result be further explored in future research. Dougherty et al. inferred that their findings contributed to the peer-mediated intervention literature in two additional ways. First, they demonstrated that peers can implement a token system to maintain reductions in previously high-rate negative interactions. Second, the findings of the study showed that a package designed only for adult implementation was adapted without loss of program effectiveness for use by moderately retarded peers. As with most other inductive theorists, Dougherty et al. shied away from any explicit theoretical interpretation of their findings. Instead, they simply noted that their findings made a contribution towards an empirical accumulation of evidence that may eventually verify the utility of this specific form of peer-mediated intervention.

On a somewhat less positive note, it appears that it may be exceedingly difficult to generalize the peer-mediated intervention effects over time. As noted by Cullinan, Epstein and Lloyd (1983), this lack of generalization has long been the bane of many behavioral intervention programs. In the case of this particular study, the length of the follow-up period alone does not appear to adequately account for the behavioral regression of the two target subject. The possible presence of other intervening variables in this situation will be discussed at greater length in the final section of this review.

Although it may not have biased the results of this investigation completely, the fact that one of its authors played a major therapeutic role with the target subjects is somewhat less than ideal. This situation does raise some questions, however, about the external validity of the study. The researchers clearly inferred that the peer monitoring variable accounted for the observed relationships brought to light in this inductive investigation. Dougherty et al. concluded that although these inferences did not significantly alter the peer monitoring model, it did contribute to the empirical evidence supporting it.

From a somewhat different perspective, Odom and Strain (1986) compared two interventions designed to increase the reciprocity of peer social interactions of autistic children. During the first intervention, the teacher verbally prompted the autistic children to initiate interaction with confederates, who had been coached to reciprocate. A second intervention involved training the confederates to initiate interaction with their autistic peers.

Three preschool autistic children, who were enrolled in a preschool centre for emotionally disturbed children, served as the target subjects in the study. On standardized assessment measures, all three children failed to achieve a basal score on the McCarthy Scales of Cognitive Abilities. Four other children, also enrolled in the centre, served as the confederate peers. All of the confederates had been referred to the centre because of behavior problems, but were not autistic.

Within the classroom setting, confederates were trained to assume different roles in the peer-initiation and teacher-antecedent conditions. During the peer-initiation training sessions, confederates learned to direct social initiations that had a high probability of gaining a response from the autistic children. In the teacher-antecedent training sessions, confederates learned to respond to the autistic children's initiation and to extend the interaction. The training occurred in four 20-minute sessions and coincided with the beginning of each comparative treatment phase.

Sharing and playing organization were chosen as target behaviors for this study because of their effectiveness in promoting social interactions in other previous studies (Odom et al., 1985; Odom et al., 1986).

The researchers employed a continuous events recording system to code behaviors directed at the autistic children and also behaviors initiated by the autistic children towards their peers. In addition to these categories, each of the two observers also coded each behavior as either an initiation or a response. The mean length of social interaction between the target subject and the confederate was also calculated. This was defined as an initiation plus all the responses that followed it. Data was collected for a defined period per target subject each day.

A token reinforcement system was used during the intervention sessions to motivate the confederates. The confederates were shown an index card with a series of small, black circles drawn on it. The teacher drew a happy face in one of the circles each time one of the autistic target subjects responded to the confederates' prompts during the peer-initiated condition, or each time the confederates responded to a subjects' initiations and extended the social interactions in the teacher-monitored condition. Once the circles were all filled in, the confederate could exchange the card for a variety of small, tangible rewards. In addition, the confederates were also given social reinforcement by the teachers for reaching the criterion, but only after the session was completed.

During both intervention conditions, the target subject and a confederate were asked to play in a certain area of the classroom apart from the other children. During the peer-initiation condition, the teacher suggested play ideas to the confederate and verbally prompted him to initiate with the target subject, when necessary. In the teacher-antecedent condition, the teacher told the target subject that he or she wanted him to play with the confederate. After the play session began, the teacher verbally prompted the target subject to share a play material with the confederate and waited 5 seconds. If the target subject did nothing, the teacher repeated the verbal prompt and physically prompted him to share. During the course of the investigation, two confederates assigned to one of the target subjects became very noncompliant and had to be withdrawn.

Results of this study revealed that the peer-initiation procedure reliably increased the social responses of both the target subjects and confederates, whereas the teacher-antecedent condition increased both the initiations and responses of both groups of autistic children. In addition, longer chains of social interaction occurred during the teacher-antecedent condition. However, both of these interventions appeared to require a considerable amount of teacher involvement.

This fact underscores the importance of the teacher's role when using peer-mediated interventions with autistic children. The researchers clearly indicated that the teacher was not able to maintain a peripheral role in either intervention condition. In fact, Odom and Strain stated that, "the practical utility of both interventions investigated in this study (was) limited by the large number of prompts required from the teacher" (p. 69). As a result of this limitation, the authors offered that a clear direction for future research was towards the establishment of a procedure in which teacher prompts are not required. In essence, no formal procedure emanating from this use of the peer-mediated intervention in this investigation was used to reduce the level of teacher involvement.

This inductive investigation had several additional limitations.

First, it became very apparent after two of the confederates withdrew from the experiment that socially skilled peers must be used if the intervention is to be successful. Second, these findings must be interpreted with caution in light of the small number of children that were involved. Similarly, the idiosyncratic nature of the autistic population precludes the formation of major theoretical inferences about the peer monitoring intervention as a whole. Finally, the interventions made in this study only occurred for a six minute period each day. This represents no clear indication that the same observed effects could be generalized over an entire school day (p. 71).

Similarly, Strain and Odom (1986) conducted an extensive review of methodological considerations for future research in the area of peer monitoring. Specifically, three major issues involving the empirical testing of this intervention were brought to light. First, the authors stressed the importance of providing a precise description and monitoring of the independent variable. Second, the measurement of the timing of intervention effects was accentuated. The researchers indicated that monitoring the timing of effects was made essential by the probable nonlinearity of the intervention/social-skill relationship. "For example, more intervention may not be better. Optimal effects may occur relatively early and taper off as a function of boredom, satiation or other similar reasons" (p.548). Finally, Strain and Odom recommended that any subject-specific effects should be documented in order to determine whether a particular child is a good candidate for a peer-mediated intervention. Unfortunately, the authors provided no further elaboration on this possibly contentious issue.

Sainato, Maheady and Shook (1986) conducted what appears to be a particularly rigorous investigation involving a variation of the peer monitoring intervention. These researchers examined the effects of assigning a classroom manager's role on the frequency of social interaction and the sociometric standing of three withdrawn kindergarten students. The study was conducted in a regular kindergarten classroom, containing sixteen children. Three children (one male and two females) were identified as being socially withdrawn on the basis of direct observations of free-play interactions, teacher rankings of social isolation and withdrawal, and peer sociometric assessment.

Social interactions between the three target subjects and their peers were assessed via an observational system consisting of four basic categories of social behavior: positive vocal-verbal, positive motor-gestural and two similar negative correlates. In addition, social behaviors were coded as to whether they occurred as initiated or responded events in an interaction sequence. Finally, two types of sociometric assessment were used in this study: peer ratings and peer nominations.

A multiple baseline across subjects was implemented to determine if the assignment of a manager role would influence the interpersonal attraction and interaction patterns of the three socially isolated children. During baseline, all subjects were observed interacting in the free-play setting without any experimenter-manipulated changes in the routine. The teacher monitored play activities and offered ideas, but generally did not prompt the children to engage in social interactions. Following a 5-day baseline, the teacher announced to the class that she had selected a new helper in the classroom. She then called the first target subject to the front of the class and awarded him a large "manager" button to wear for the next two weeks. His "job" consisted of leading and/or directing the class in previously-rated, highly-preferred activities, which included directing the feeding of the class guinea pig, collecting milk money and taking lunch count, etc. Prior to beginning school each day, the teacher reviewed the manager's duties with the target child and the rest of the class. This procedure was repeated for the second and third target subjects.

Findings based on the investigation showed that the three socially withdrawn subjects substantially increased the frequency of their positive social initiations during free-play time, were recipients of many more positive and significantly fewer negative social bids from their peers, were rated more positively by their peers, and were selected more frequently as best friends by their peers. In addition, one month follow-up data suggested partial maintenance of treatment effects when the subjects no longer occupied manager positions.

Through these findings, Sainato, Maheady and Shook appear to have made a significant contribution to the empirical literature supporting the efficacy of peer-mediated interventions. Unlike many behavioral intervention studies, these researchers chose not to rely solely on observational data. Instead, the authors used multimethod assessment strategies in an attempt of identify target students as socially withdrawn. Teacher rankings of children's social interaction rates, as well as peer nominations and ratings, were used to identify a small group of students who interacted quite infrequently with their classmates. A second strength of this particular intervention investigation was that it required relatively little teacher time, did not remove either target children or peers from ongoing activities for some form of systematic training and involved very few changes in the existing classroom routine. This latter point best underscores the pragmatic value of this particular intervention. Finally, most behavioral strategies designed to improve the interpersonal functioning of withdrawn children have failed to provide evidence of either maintenance effects or changes in sociometric status and social interaction (Greenwood and Hops, 1981). Despite producing only short-term partial maintenance effects, this investigation did demonstrate rather clear improvements in the target subjects' sociometric status and interaction patterns as a result of their assumption of the role of class manager (p.193).

In addition, Sainato et al. carefully recommended several directions for future research in this area. A need for additional replications across grade levels and manager roles was seen as being essential in order to provide additional support for assigning these positions as possible social change procedures. Further, the researchers suggested that future research efforts should examine the long-term effects of the present investigation. Specifically, they advised that the generalization and maintenance effects across an entire school year should be examined. Due to the relative recency of this investigation, it is not possible to assess its heuristic value. However, the inductive theory put forth by Sainato et al. appears to be both high in testability and long in significance. They seem to have taken great care not to overstate their findings preferring, instead to state some rather conservative, yet parsimonious, estimates of the value of this investigation. From a context of discovery, this investigation created several innovative hypotheses regarding the use of peers as therapeutic change agents.

The last peer monitoring intervention study to be examined within this review was conducted by Fowler, Dougherty, Kirby and Kohler (1986). These researchers sought to determine whether the appointment to the role of intervention agent would routinely promote positive behavior changes in children with problem behaviors and also whether these changes were likely to maintain or generalize to untreated sessions or settings.

Three 7-year old boys, enrolled in a regular grade one class were selected by their teachers for participation in the study because they frequently engaged in disruptive behavior during recess. Screening observations verified the teachers' reports. Screening, baseline and intervention observations took place on the playground during the morning, noon and afternoon recesses. Data was collected five days per week during the noon recess and approximately three days per week during the morning and afternoon recesses. Eight categories of behavior were observed; occurrences were scored in consecutive 6-s intervals on precoded data sheets.

An A-B-A-B reversal design was used during the noon recess. Effects were subsequently replicated with two of the target subjects in a multiple baseline design across noon and morning recesses. Generalization of treatment effects was assessed through an extended baseline in th morning and afternoon recesses. The number, sequence and types of intervention conditions differed somewhat for each child.

During baseline, no experimental procedures were in effect for morning, noon or afternoon recesses. During the peer monitor condition, each target subject was assigned one classmate to monitor during the noon recess. This was preceded by three 30-minute training sessions for each target subject. At the beginning of each recess, a consultant briefly reviewed the rules for monitoring and for appropriate play with the peer monitors and their assigned classmates. The monitors were told to check with their assigned classmate every five minutes and to model good behavior throughout the recess. Essentially, the target subject was then charged with the responsibility of assigning or withdrawing points based on the assigned classmates' appropriate or inappropriate behavior. A final, adult-monitored condition was then applied to all three target subjects.

The findings of this study strongly supported the notion that children with severe behavior problems could reduce their own problem behaviors when they are assigned to monitor classmates for better behavior. As might be expected, however, treatment gains were limited to sessions and settings in which the target subjects functioned as peer monitors. Overall, adult-monitoring was shown to be the more effective procedure for eliminating negative behavior.

Fowler et al. offered little defense for their findings and failed to make any further recommendations for further research. In contrast to the investigation conducted by Sainato, Maheady and Shook (1986), the present study appeared to offer little empirical evidence for the effectiveness of peer monitored interventions. From a methodological standpoint, it clearly lacked the creativity so aptly demonstrated by Sainato et al.. On a theoretical plane, this investigation offered only a minimal inferential commitment. In essence, this study epitomized many of the peer monitoring investigations. Despite obtaining some promising treatment outcome data, most of these studies fail to generalize to other settings and do not demonstrate durable effects over time. The last section of this review will very briefly examine three peer facilitator intervention studies.

Peer Facilitator Interventions

Ross and McKay (1976) described a pilot program using a token economy led to the abrupt, persistent and impressive behavioral improvement of ten delinquent, adolescent female subjects. However, repetition of the program with other incarcerated female subjects failed to replicate these initial results. The researchers concluded that the initial success of the program was based, not on the token economy system, but rather on the subjects acting as peer therapists for one another. Ross and McKay then indicated how a peer therapist program was established based on "motivating the subjects to positive reinforcement without group sanctions, dealing with personal strengths, labelling peers as therapists and training them in a specific technique and providing for generalization by having them develop a social skill useful in their posttreatment environment" (pp.15-16).

Significant behavioral improvements were noted in the target subjects, as earlier illustrated in Table 1. Regrettably, Ross and

McKay chose to have the specifics of their intervention strategies remain a mystery. The fact that no substantive description of the independent variable was given by the author must be recognized as a major, perhaps even fatal limitation to this study. Replication of this investigation, therefore, appears to be impossible. The fact that a review of the literature concerned with this specific "peer therapist" intervention revealed no further empirical investigations of this nature further underscores this fact. In addition, it may be postulated that a Hawthorne effect, rather than any substantive treatment effect, could have accounted for the observed findings.

Rashbaum-Selig (1976) investigated the effects of a peer facilitator program on a single male target subject. As in the previous investigation reviewed, however, this researcher failed to provided more than just a cursory description of the independent variable, methodology and results of her research. It appears that there is little to be gained from further discussion of this informal study, save the fact that it had very little or no external validity.

In contrast, Bowman and Myrick (1987) examined the effects of a peer facilitator intervention on fifty-four second and third grade pupils somewhat more rigorously. Two second or third grade classrooms from nine urban Florida school were randomly selected for this functional study. Teachers in each of these classroom identified six students who were each exhibiting at least one of the five categories of problem behaviors listed on the Walker Problem Behavior Identification Checklist (WPBIC). Students in one classroom from each school were randomly assigned to be in the experimental group, while the other students became part of the control group (E = 54, C = 54).

The six students in each school's experimental group then met and worked with the peer facilitators from their school. Each of the peer facilitators was a grade five pupil who was randomly selected from a larger, counselor-identified group of children who were seen as student leaders. The researchers clearly outlined the ten training and two review sessions that the peer facilitators received prior to the actual intervention.

Four instruments were used to study the effects of the training program and peer facilitator intervention. These instruments were used to measure the fifth graders' self-concepts (Piers-Harris Children's Self-Concept Scale) and attitudes towards others (Student Attitudes Towards Others Survey). The primary grade target subjects' classroom behaviors were measured by the WPBIC, while their school attitudes were assess using the Primary Student School Attitude Test (PSSAT). All of the instruments were administered as pretests by school counselors. After completion of the peer facilitator intervention, each instrument was readministered as a postmeasure. The resulting data were pooled for analysis.

Bowman and Myrick presented a clear, concise description of the twelve session intervention, which carefully highlighted its pertinent characteristics. Results of the ANCOVAs performed on data from fifth graders revealed no significant differences (.05) between experimental and control groups on either self-concept of attitudes towards others. In contrast, significant differences (.05) were found between experimental and control groups of primary grade students on the variables of classroom behavior and school attitude. To determine more specifically what changes in classroom behaviors had occurred, the researchers performed ANCOVAs on each of the five WPBIC subscales. Significant differences between experimental and control groups were found in Acting Out ($p = .0002$) and Distractibility ($p = .0111$). No significant differences ($p < .05$) were found on the other three subscales.

To investigate whether differences noted would last over time, primary grade target subjects were readministered the two instruments again eight weeks later. The researchers performed ANCOVAs on data from 70 primary grade pupils (E = 35, C = 35) on the WPBIC and 68 pupils (E = 34, C = 34) on the PSSAT, again using pretests as covariates. Results revealed some regression on the group means, but significant differences ($p < .05$) continued between experimental and control groups.

Bowman and Myrick concluded that the peer facilitator intervention was effective in improving the classroom behavior and school attitudes of the target subjects. It appears that this investigation does have at least one identifiable limitation, however. During the selection of the target subjects, each teacher was asked to identify six pupils from each class that exhibited WPBIC problem behaviors. It is quite possible that there were not six "true" problem children in each classroom. In this event, many of the target subjects may have been "false positives". Moreover, if the teachers had been requested to identify eight or nine problem behavior children, some of them would have been able to do so. Although estimates of the prevalence of behavior disorders in the school-age population range between 2% and 30% (Cowan, 1978; Rubin and Balow, 1978; Dow and O'Reilly, 1981), Cullinan, Epstein and Lloyd (1983) concluded that 4% is the most common figure. Therefore, it is highly unlikely that each teacher had six truly behavior disordered children in a classroom. Rather than relying solely on a teacher rating scale to identify problem behavior pupils, the researchers may have obtained a more accurate hit rate by using other means to identify these children, such as direct observation. The last section of this review will examine the notion of peer-mediated interventions from an ecological perspective.

In summary, this review has examined the research findings pertinent to three different peer-mediated interventions. Initially, several researchers (Smith and Fowler, 1984; Strain, Cooke and Apolloni, 1976; Strain, Gable and Hendrickson, 1978) stated bold claims outlining the advantages of using children as therapeutic agents. In contrast, this review suggests that a number of clear disadvantages to this intervention exist. First, the use of children as therapeutic change agent can be is very demanding, both financially and also in terms of teacher time, as evidenced in the review of peer monitoring interventions. Second, it appears that it is very difficult to generalize treatment effects across different times and settings. Finally, it is quite clear that, in some cases, peer-mediated interventions simply are not as effective as teacher-mediated treatments.

From a larger perspective, each of the reviewed investigations posited that the child is the sole repository of the disruptive behavior and therefore, the only focus for treatment. This is decidedly contrary to the ecological view of children with problem behavior presented in the preceding sections of this literature review. In essence, it appears that peer-mediated interventions may be more valuable within the context of a broad-based treatment model proposed by Kazdin (1987). From a research perspective, Kazdin suggested that future empirical efforts designed to ameliorate social skill deficits in children may examine the contributions of multiple treatment components.

Based on this review, the peer confrontation approach (Bellafiore and Salend, 1983) was selected for the purposes of the present study. This particular intervention technique was chosen for three reasons. First, the peer confrontation technique was significantly less demanding on the classroom teacher's time than the other two peer-mediated interventions reviewed. Second, the peer confrontation strategy appeared to be the most appropriate approach to teach to parents of behavior disordered pupils. It is relatively simple to learn, requires no materials and can be used in a variety of home and community settings.

The final reason why the peer confrontation approach was adopted relates to the stages of disciplinary procedures outlined by Sprinthall and Sprinthall (1981). These investigators postulated a series of four stages of cognitive, moral and emotional growth which they related to the disciplinary procedures appropriate for each stage. In Stage I, students respond primarily to the use or threat of physical force. During Stage II, they respond to material consequences, both rewarding and punishing. Sprinthall and Sprinthall have suggested that these first two classes of interventions are only useful for a short time. Successful programs must move students on to Stage III, in which social group pressure is the effective means for control and promoting growth and Stage IV, where individual decision making and responsibility for actions are characteristic.

Clearly, both peer monitoring and peer facilitator interventions rely heavily on token economy systems to reduce problem behavior - a Stage II disciplinary procedure. In contrast, the peer confrontation approach represents a disciplinary procedure representative of Sprinthall and Sprinthall's third stage and is, therefore, more likely to permit the transfer and generalization of any treatment effects detected in this investigation.

Specific Hypotheses

1. Hypothesis 1

   As a function of the intervention strategies used in the classroom, the number of target problem behaviors exhibited by the subjects in the behavior disordered classroom will be significantly reduced. Problem behaviors will be operationally defined and measured by the Child Behavior Checklist - Direct Observation Form (CBCL: DOF), Child Behavior Checklist - Teacher Report Form (CBCL: TRF) and the Child School Checklist (CSC).

2. Hypothesis 2

   Following the intervention program, there will be a significant decrease in the number of problem behaviors exhibited by the subjects at home, as measured by the Child Behavior Checklist - Parent Form (CBCL: PF) and Child Home Checklist (CHC).

3. Hypothesis 3

Following the intervention program, there will be a decrease in the number of problem behaviors exhibited by the subjects in the community, as measured by the Child Community Checklist (CCC). Community will be operationally defined for this study as the child's own yard, a neighbor's yard or home, stores, church, community recreation facilities and the family car (Wahler and Cormier, 1970, p. 282).

CHAPTER III

METHODOLOGY AND PROCEDURES

A description of the methodology of the present study will be conducted under the following headings:

1. Sample
2. Instruments
3. Intervention Techniques
4. Design
5. Procedure

Sample

Six male pupils enrolled in a self-contained special education class for children with behavior disorders served as the subjects of this study. Ranging in age from seven to nine years, each of the subjects had average to above average intellectual abilities. The mean chronological age of the subjects was approximately 100.1 months, with a standard deviation of 8.18. The mean IQ of the same subjects, as measured by either the Stanford-Binet or W.I.S.C.-R., was 106, with a standard deviation of 12.21. According to cumulative records, however, all of the pupils were achieving below their measured potential. Each child had a history of chronic behavior problems, which resulted in multiple suspensions from their previous school placements. According to parents and previous teachers, the behavior of each subject had deviated to such a degree from his peers as to warrant placement in the Behavior Management Class (BMC) program. A program description, a complete summary of placement procedures and objectives of this program has been included in Appendix D. A brief description of each of the six subjects in this investigation and the presenting behaviors they exhibited upon entry into the BMC program follows. The names of these children have been changed in order to maintain confidentiality.

Allan H. (eight years, eleven months)

Allan's inappropriate behavior and extreme distractibility had been a concern to his parents since infancy. He was placed in a full-time day care facility at the age of one year. During the five years he was there, Mr. and Mrs. H. regularily heard concerns from the day care staff about Allan's inability to sustain attention and his extreme noncompliance. When he entered kindergarten in 1986, similar comments were made by his teacher. She noted that Allan required an incredible amount of adult attention, refused to remain in his desk, frequently shouted out in class and had great difficulty remaining on task.

At the same time, Mr. and Mrs. H. described Allan as being "restless, impulsive, unable to finish tasks that he starts, inattentive, constantly fidgeting and easily distracted" on the Conners Parent-Teacher Questionnaire. In 1987, an Edmonton Board of Health physician assessed Allan at the end of his grade one year and concluded that he was "immature" and showed indications of nervousness and low self-esteem. Although he also showed symptoms of Attention Deficit Disorder With Hyperactivity (A.D.D.H.), it was suggested that Allan's behavior would likely "improve in time" and no further treatment was prescribed.

Allan continued to exhibit similar behaviors over the next two years. He had great difficulty completing school assignments and displayed various forms of attention-seeking behavior both at home and at school. In February 1989, Mr. and Mrs. H. consented to a psychiatric assessment for their son. The consulting psychiatrist interviewed the entire family and concluded that Allan's considerable behavioral difficulties stemmed from an Attention Deficit Disorder with Hyperactivity. Further, it was observed that family tensions, such as Mrs. H.'s abuse of codeine medication, served as an additional aggravating factor. Mrs. H. was subsequently referred for therapy.

Although the medication prescribed by the psychiatrist initially had a calming effect on Allan, his behavior remained very inappropriate. As a result, a Behavior Management Class (B.M.C.) placement was requested and strongly supported by his parents and school staff.

Bill G. (eight years, six months)

Bill was born in Quebec to a single mother who reportedly had a great deal of difficulty parenting him. As a result, the boy was in foster care in several different homes in Quebec prior to his natural mother moving to Alberta in 1985. Bill was apprehended by Alberta Social Services at Christmas that same year, at his mother's request. He spent approximately two months in care before Mr. and Mrs. G. adopted him. The G.'s had three natural children, girls aged fourteen and ten, and a two year old boy. When they requested a child to adopt, Mr. G. indicated that they wanted a youngster who had some type of handicap, thinking that the child would have a physical handicap; however, he stated that when it was suggested that they take Bill into their care, he and his wife quickly bonded with him.

Mr. and Mrs. G. were aware at the time of adoption, according to Mr. G.'s self-report, that Bill had significant "sexual problems". He and his wife thought they could cope with the child and were loath to ask for help. By October 1988, Bill's behavior in the home had deteriorated to the point where Mr. and Mrs. G. wished to surrender him to Alberta Social Services. Mr. G. was concerned that Bill did not seem to be "thriving" with them and he questioned whether he and his wife were doing more harm than good. In January 1989, Mr. and Mrs. G. agreed to a custody agreement, holding off on surrender, as long as they could be assured that Bill would be receiving psychological treatment for the following behavioral difficulties:

> Bed-Wetting: this problem occurred continually with the result that Bill seldom had a dry night. He also frequently wet before he went to sleep. Finally, Bill was referred in December 1988, by the family pediatrician, for urinary testing. However, no apparent physical problems with the kidney or urinary tract were found. Bill was placed on medication, but this did not make any difference in his behavior. The family physician concluded that Bill's difficulties were of an emotional nature and subsequently referred the boy to a child psychiatrist.
>
> Eating Problems: Bill had no limits and would eat to the point of making himself ill. Mr. and Mrs. G. responded by banning him from the refrigerator because of this problem. Routinely, he ate his lunch on the way to school, leaving him with nothing to eat at lunch hour. Mr. G. reported that this elicited suspicions and complaints from Bill's teachers that he was not being cared for appropriately.
>
> Attention Span: The G.'s reported that Bill constantly exhibited symptoms of hyperactivity. He had a very short attention span and didn't seem to hear them speaking to him. A hearing test subsequently revealed no abnormalities.
>
> Aggressive Behavior: Mr. and Mrs. G. expressed concern that Bill would harm his younger brother and noted that they could never leave the two alone together. On one occasion, Bill tied a skipping rope tightly around the younger boy's neck and on

another he held the child on the ground and pushed a sharpened stick into his throat. During the Christmas 1988 vacation, while both parents were at work, the older girls were babysitting the two younger children. Bill "beat up" his ten year old sister to the extent that she had to be hospitalized for a week.

Sexual Play: This behavior was apparent from the time that the G.'s adopted Bill. During one interview, Mrs. G. reported that Bill fondled himself and masturbated almost constantly. Officials from Bill's previous school reported that he exhibited deviant sexual behavior on a number of occasions (ie. approached his female teacher from behind, grabbed her hips and performed several pelvic thrusts) with both male and female peers and school staff). It was concluded that Bill was very likely sexually abused prior to his adoption by the G. family.

Lying: Both parents reported that Bill could not seem to tell the truth about anything, no matter how trivial. He seemed not to care for the rights of others, only his own; this pattern was consistent with that reported at the school and day care. Mr. and Mrs. G. also stated that Bill was extremely manipulative and knew exactly how to engage significant adults in power struggles.

Peer Relations: Bill had a great deal of difficulty playing with other children. He often provoked fights with his peers and seemed to be unaware of the reasons why other children chose not to play with him.

School Problems: Bill experienced severe behavioral problems throughout his kindergarten and grade one years. Each of the above-mentioned behaviors were manifested in a variety of school settings, including the lunchroom, classroom and playground. A number of school suspensions were issued by the principal in an attempt to generate other resources to help the school cope with Bill's destructive behavior.

Bill was apprehended in April 1989 and placed in a foster home. The boy became a permanent ward of the government and was transferred to a group home in June. At the same time, Alberta Social Services requested a placement for Bill in the BMC program.

Dick K. (seven years, ten months)

Dick was first referred to a school system behavior consultant in late May 1987 for problem behaviors he exhibited in his kindergarten class. Specifically, he showed extreme defiance toward his peers and most adults, hid under desks, refused to participate in class activities and demonstrated a total inability to socialize. Mrs. K., a single parent, indicated that she was not prepared to seek counselling or parenting assistance at that point. As there were only a few weeks left in the school term, intervention efforts focused on classroom management techniques and strategies designed to help the teacher cope with Dick's inappropriate behavior.

Within the first two weeks of September 1987, Dick was referred by his new teacher for similar concerns. On this occasion, Mrs. K. consented to a neurodevelopmental assessment by an Edmonton Board of Health physician. During this assessment, Dick showed evidence of overactivity, impulsivity and great variability in attending behavior. Given his age and the fact that immaturity may have been a significant factor, Dick was accepted into a small grade one classroom that offered a great deal of individualized attention. This class setting proved to be very beneficial to Dick. Although he still exhibited moderate behavior problems, positive academic and social improvements were noted. Mrs. K. tried her best to follow the home program for dealing with A.D.D.H. children designed by a district behavior consultant, with some success.

Despite a very structured grade two classroom setting, Dick's behavior deteriorated over the eight months between September 1988 and April 1989. He frequently was suspended by the school for inappropriate behaviors, such as:

- hitting and kicking a lunchroom supervisor;
- throwing his books and pencils at his teacher;
- throwing his desk over when he became frustrated;
- scratching his arms with a sharpened metal fragment until he bled profusely;
- drawing on the walls and furniture in the principal's office with a felt pen; and,
- refusing to do any academic work and then angrily declining to look at or speak to his teacher; on these occasions he would often hide under his desk and scream, "You can't make me...I don't have to do anything you say".

In a long emotional letter requesting placement for her son in the BMC program, Mrs. K. described her son's behavioral difficulties in the following manner:

> "...at the smallest imposition of someone else's will on Dick he becomes angered. This could be as simple as a teacher request to complete a spelling question or a page of math. On good days, this request will be met with tears or silence on his part and a refusal to move, lift his head or show any type of response. On bad days, it will be met with yelling, name-calling, throwing books, pencils, desks or whatever is at hand.
>
> At home, Dick has run away many times. He never runs far enough away that you'll not be able to get him or speak to him - just far enough that you have to chase him, which, of course, does not work.
>
> Dick also slams and kicks doors repeatedly and kicks, chokes and punches other children - all for what he believes, or says, is justified retaliation. At times he has stolen money from me at home and has brought home little toys that belong to other children.
>
> Last week, Dick wore his pajamas to school, wore clothes to daycare, changed back into pajamas, back to clothes, back to

> pajamas and then refused to get back into his clothes. We had to carry Dick out of the day care because he refused to move or take his hands down from over his ears.
>
> What scares me the most is that he shows no remorse for hurting someone...to him it's always justified..."

Mrs. K, who was married for the third time in July 1989, agreed to pursue psychiatric assessment and treatment for Dick over the summer holidays.

Daniel M. (seven years, five months)

Daniel resides with his maternal grandparents, Mr. and Mrs. H., who became his legal guardians in April 1985. They have basically cared for Daniel since he was three months of age, with the exception of a five month period with his natural mother when he was eighteen months and for a five day span in November 1984. On both occasions, Mr. and Mrs. H. decided to care for him as they believed that he was being neglected by his mother. Mr. H. stated that when he and his wife visited Daniel at his mother's apartment, their grandson would frequently plead with them to take him to their home. However, the H.'s hoped that with more time to mature Mrs. H's daughter would be able to assume parenting responsibilities in the future. Their goal was to reunite Daniel with his mother as soon as it seemed possible.

In 1986, Mr. H. indicated that Daniel's behavior changed dramatically after the most recent attempt at reconciling him with his mother. He described Daniel as being resentful and unmanageable since that time. Mrs. H. indicated that her main concerns were Daniel's temper tantrums, destructiveness, whining and overactivity. She also stated that she found caring for Daniel to be quite stressful, as her own children were all grown and on their own. Mrs. H. said that she had not expected to be caring for a preschooler full-time at this point in her life. Following a brief assessment period at a local hospital, parenting courses were recommended for the H.'s.

Daniel was reassessed by a psychologist in November 1987, at the request of his kindergarten teacher. She expressed great concern over his aggressive behavior with his classroom peers (biting, kicking and punching others with little or no provocation) and his extreme distractibility. Mr. and Mrs. H. acknowledged that Daniel manifested these same behaviors both at his daycare and in the neighborhood. As a result of this assessment, Daniel was placed in a classroom with a teacher-pupil ratio of 1:15, with a full-time classroom aide. In addition, Daniel was referred for ongoing counselling to improve his self-esteem and peer relations. Parenting classes were also recommended to, yet declined, by Mr. and Mrs. H.

Following a change of schools initiated by his grandparents, Daniel continued to exhibit very inappropriate behavior in grade two. A series of suspensions followed, which did not appear to have any noticeable effect on Daniel's behavior. Finally, at the request of his teacher and a behavior consultant, Daniel was assessed by a community psychiatrist. He noted that the boy's behavior both at home and at school was oppositional and destructive. Further, he concluded that Daniel's behavior caused significant tension between his grandparents as they struggled to cope with him at home. Anti-depressant medication was prescribed for Daniel, but his grandparents disagreed on the wisdom of this treatment. The BMC program was also recommended in the hope that Daniel could benefit from a more intensive level of teacher-pupil involvement. The H.'s strongly supported this recommendation.

Mick C. (nine years, three months)

Mick and his mother moved to Edmonton from a rural community in August 1988, following a marital separation. This move appeared to have an immediate negative effect on Mick. At school, he persistently refused to obey classroom rules and directions provided by his teachers. Mick talked out of turn constantly in class, as if to deliberately cause disruptions. On the playground, he bullied younger children and used physical aggression as a means of gaining power. In the classroom, Mick was uncooperative and consistently exhibited acting-out behaviors to focus attention on himself. As a result, Mick was suspended three times and school staff met with Mrs. C. approximately eleven times in an attempt to resolve the boy's difficulties.

In contrast, Mrs. C. described Mick's behavior at home as being very positive. She associated her son's difficult behavior at school with a lack of classroom management skills on the part of his two main teachers. However, an assessment by a community psychiatrist in May 1989 suggested that Mick's behavior was a severe reaction to stressful family events over the past year and a half. He recommended intensive therapy for Mick, as well as a placement in the BMC program. Without hesitation, Mrs. C. accepted both recommendations.

Corey M. (eight years, two months)

Corey is an adopted child, who is presently living with his brother and mother. Mrs. A. is a single parent who recently separated from an abusive, alcoholic husband. During the 1988-89 school term, Corey was suspended three times from one school before he transferred to another, at his mother's request. Both his teachers and his mother described him as being "out of control, defiant, destructive and wanting his own way at all times". Personnel from the day care that Corey attended reaffirmed that he exhibited similar problems in their program. These problems prompted the staff to call Mrs. A. on numerous occasions to meet with them inorder to seek solutions to Corey's inappropriate behavior.

In April 1989, Mrs. A. initiated a request for Corey to be referred to the BMC program. She readily admitted that the intensity of Corey's problems were beyond the scope of the parenting courses that she took to try to bring him under control at home. In addition, Mrs. A. promised to actively support all parental activities that the program initiated. An assessment conducted by an Edmonton Board of Health physician in May also recommended that Corey be placed in the

BMC program for the 1989-90 school term.

Instruments

Problem behavior, the key variable of concern in the present investigation, was assessed by two formal, norm-referenced instruments and four informal instruments. The two formal instruments that were used are the Child Behavior Checklist (CBCL: Achenbach and Edelbrock, 1983) and the Behavior Rating Profile (BRP: Brown and Hammill, 1983). The Child Home, School and Community Checklists (CHC, CSC and CCC: Wahler and Cormier, 1970), a series of structured, ecological interviews, the Life Event Scale - Children (LES: Coddington, 1981), the BRP Sociogram and an indepth examination of five family-school relationship patterns (Power and Bartholomew, 1987) represent the informal measures that were employed in this study. A more complete description of each of these instruments will now be presented.

Child Behavior Checklist (CBCL)

The Child Behavior Checklist (CBCL) was designed to empirically assess the behavior problems and social competencies of children, ages 4 to 16 years, as reported by their parents, teachers and others who know them well. This instrument consists of four multiple-item paper and pencil multiple-choice and free-response inventories for evaluating inappropriate social behavior from four perspectives.

The Parent Form of the CBCL (CBCL: PF) was designed to obtain parents' descriptions of their children's behavior in a standardized format. This rating scale consists of 118 behavior problem items and 20 items that assess the amount and quality of children's social competence. The majority of the behavior problem items describe overt behavior (e.g. disobedient at home, has temper tantrums), which are scored on a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). The social competence portion of the test requires parents to list sports, activities, chores and organizations in which their child participates and then to rate the quality and/or amount of time the child spends in each activity as compared to same-aged peers. The social competence scale also obtains information on the amount and quality of peer interaction, quality of family interaction and current and past school performance.

The items are written at a grade five reading level and are generally worded in a nontechnical, colloquial manner. The test authors have suggested that the CBCL: PF can be self-administered or administered by an interviewer in less than twenty minutes. The Parent Form also contains space for demographic information on the parents and child. This instrument yields five scale scores: social competence (activities, social, school) and behavior problems (internalizing, externalizing).

In addition to the CBCL: PF completed by parents, supplementary data forms are provided for obtaining data about a child's behavior in other ecological settings. The Teacher's Report Form (CBCL: TRF) was designed to obtain the teacher's assessment of many of the same behavior problems and social competencies that parents rate on the CBCL: PF. However, on the CBCL: TRF more emphasis is placed on evaluating current and past academic performance and on evaluating behavior problems likely to be observed by a teacher in a classroom setting. Based on 118 items, the CBCL: TRF scoring profile includes standard scores, four general adaptive characteristics, eight behavior problem scales, internalizing and externalizing problems and total problem scores.

The Direct Observation Form (CBCL: DOF) rates 96 problem behaviors from 0 (not observed) to 3 (severe intensity) for a 10-minute period and provides for scoring on-task behavior at 1-minute intervals. The observer writes a narrative description of the child's behavior during the observation period and then rates the behavioral items accordingly. Stable scores are obtained by averaging the ratings obtained on six different occasions. Individual item scores, total behavior problem scores and on-task scores act as direct indices of behavior problems and change over time (Mooney, 1986, p. 104). A Youth Self-Report Form of the CBCL is also available for children and adolescents eleven to eighteen years of age. Since elementary school pupils, between the ages of seven and twelve years, are the primary focus of the present proposed investigation, use of the YSRF is inappropriate.

The psychometric properties of the CBCL have been extensively evaluated. Intraclass correlation coefficients that were computed to assess test-retest reliability, interparent agreement, and inter-interviewer reliability of item scores were all reported to be above .90. Furthermore, correlational studies conducted with scale scores, total problem scores and competence scores indicated good test-retest reliability, score stability and inter-observer agreement (Kelley, 1985, p. 302).

With regard to the validity of this instrument, several studies have supported the construct validity of the CBCL. Tests of criterion-related validity using clinical status as the criterion (referred/non-referred) have also supported the validity of the instrument. Importantly, demographic variables, such as race and SES accounted for a relatively small proportion of the score variance.

As noted by Freeman (1985), the CBCL has several advantages over similar instruments. It is well documented psychometrically with adequate reliability and validity; it focuses on a child's competencies as well as behavior problems; it is easily administered and can be scored without a computer; it provides a well-written manual and can provide cross-situational, ecological data when used in conjunction with the CBCL: TRF and DOF. In addition, since this instrument is based on empirical research, it can be easily utilized in a variety of research settings, by persons who are relatively unsophisticated in the use of psychometric tests to identify behavior problems in children (p. 301).

In the Ninth Mental Measurements Yearbook (1985), Kelley suggested that the CBCL is one of the best, if not the best instrument of its kind. He stated that the test is comprehensive, both in breadth of content and in the age range for which it is intended. Further, this author suggested that Achenbach and Edelbrock have constructed and evaluated the psychometric properties of the CBCL in a scholarly and comprehensive manner, providing test items that are relatively noninferential. Kelley concluded that the CBCL is an exemplary test and recommended its use over any other similar test (p. 303).

In another review published in the Ninth Mental Measurements Yearbook (1986), Mooney echoed these same sentiments, when he described the CBCL as "an extremely logical, well-normed descriptive instrument that has earned a place comparable to or above any other standard assessment tool for psychologists and other health and mental health professionals who work with children" (p.182). Numerous studies (Cohen-Sandler,Berman and King 1982; Gordon et al, 1982; Kuhnley, Hendren and Quinlan, 1982; Last and Bruhn, 1983; Mash and Johnston, 1983; Wolfe and Mosk, 1983) have shown that the CBCL is widely used as a measure of elementary school children's problem behavior.

Behavior Rating Profile (BRP)

The Behavior Rating Profile (BRP) is an ecological-behavioral assessment device, consisting of six independent components. It assesses children's behavior in two settings (home and school) from the perspectives of four classes of informants (teachers, parents, target child and peers). Five of the components are behavior rating scales: the Student Rating Scales (Home, School and Peer), the Teacher Rating Scale and the Parent Rating Scale. The sixth component, the Sociogram, solicits peer perceptions and attitudes toward the child being assessed. Hammill and Brown (1983) have suggested that each of these six components represents an independent measure. Therefore, each one may be used individually or in combination with any one or more of the other components. Accordingly, only the three Student Rating Scales and the Sociogram will be employed for the purposes of the present proposed study. As a result, the following discussion of the BRP will be confined to these four components.

Each of the Student Rating Scales (Home, School and Peer) is composed of 20 items. The items for each of the three scales are randomly intermixed (but identified for the examiner) among the 60 total items and are scored on a two-point, true-false scale. The raw score for each scale is the sum of the items scored as false, indicating that the listed problem behaviors do not describe the child. Therefore, high scores indicate the absence of inappropriate behaviors. Scoring of the Student Rating Scales is facilitated by inclusion of the conversion tables on the rating forms and can be accomplished with two to four minutes (Broughton, 1986).

The Sociogram is not provided as a preconstructed form; forms for it are constructed by the examiner from a set of eight pairs of questions listed in the test manual. The questions are designed to solicit peer perceptions of the target child in several areas, including friendship and academic ability. The questions are constructed to be administered to the target child's entire class as a peer-nominating procedure in which the first question of each pair asks for the names of children who are positively perceived, in regards to the attribute being sampled, and the second question requests the names of students valued negatively on the same attribute. The raw score is the child's rank in the class based on the number of times the child was nominated in response to positive questions (acceptance), minus the number of times the child was nominated in response to negative questions (rejections). The child's rank can then be converted to a standard score or percentile using the conversion table provided in the manual. In keeping with the scoring system for the checklists, the higher the child is ranked in the class, the more positively that child is valued by peers.

From a psychometric standpoint, several reviewers (Broughton, 1986; Kratochwill, 1985; Witt, 1985) have concluded that the BRP is adequately reliable for its intended purposes. Internal consistency and test-retest reliability were considered adequate for disordered groups, with coefficients across the five scales ranging from .76 to .95 for institutionalized, emotionally disturbed (ED) children and .78 to .97 for public-school elementary ED children (Broughton, 1986, pp. 98-99). Similarly, the same reviewers suggested that the content, criterion-related and construct validity of the BRP is quite acceptable. However, it should be noted that Brown and Hammill (1983) failed to report either reliability or validity data for the Sociogram component of this instrument. Accordingly, the findings based on three pairs of questions taken from this measurement tool for the purposes of the present study were evaluated only in a qualitative manner.

In summary, Kratochwill (1985) stated that the BRP has use in the evaluation of intervention programs when administered as a pre-post measure or in repeated assessment. Further, this reviewer suggested that the BRP also has potential as a measure for evaluating the social validity of behaviorally oriented programs (pp. 129-130). It is well within this context that the BRP was employed for the purposes of this investigation.

The Child Home, School and Community Checklists (CHC, CSC, CCC)

Wahler and Cormier (1970) noted that the ecological checklists serve two important and often interdependent functions. First, they develop a language system that insures that all concerned are observing and describing the same child behaviors. The CHC, CSC and CCC checklists of observable verbal and non-verbal problem behaviors provide a wide sampling of what the child is reported to do and say, rather than inferences concerning these events. The test authors have stated that non-professionals, such as parents, often vary tremendously in translating abstractions such as aggression and dependency into observable behaviors. Therefore, using behavioral descriptors such as "destroys toys or property" and "hangs on or stays close to adult" allow for little variance in translation.

A second function of the ecological interview checklists is their ability to map a child's behavior. Wahler and Cormier stated that it has been traditional to think of the deviant child's problem behavior as emanating from a single, grossly defined environmental setting, such as his or her "home life". However, the test authors maintain that this is too broad an environmental setting to assess problem behaviors or the results of intervention efforts (pp. 284-5). For example, a negativistic child may exhibit problem behaviors at bedtime and at mealtime, but he may be quite cooperative at other times of the day at home. Similarly, the same child at school may be considered difficult to manage during the arithmetic lesson, but no problem whatsoever during the social studies lesson (p. 279). According to these researchers, ecological checklists can assist in mapping the kind of social consequences a child is receiving in a particular subsetting as a result of his or her problem behavior.

In essence, interview data obtained from the CHC, CSC and CCC checklists can yield an insight into the parent and teacher's perception of how long the problem has occurred, how serious it is believed to be, what approaches to the problem have been tried, what significant events have happened in the child's life, what feelings and frustrations have been experienced and how these feelings have been handled. In addition, the final interview may provide data on any behavioral changes that take place during the course of the proposed study. From a psychometric standpoint, each interview structured by a specific checklist yields a single raw score that represents the total number of problem behaviors identified by the rater. Further, each interview also yields valuable information about several dimensions of behavior, such as duration, intensity and celeration, included in the complete behavior assessment process recommended by Mace (1985) in the Ninth Mental Measurements Yearbook.

In light of more detailed ecological theory presented in the previous chapter, use of these checklists seemed to be a particularly valuable and relevant means of obtaining relevant ecological data.

Life Event Scale - Children (LES)

The Life Event Scale - Children (LES) is a 35 item checklist of stressful life events experienced by elementary school children between the ages of 6 to 12 years old. This instrument, which is completed by the child's parents, yields scores in three areas: (1) family events over which the child has little control, (2) desirable extrafamilial events, and (3) undesirable extrafamilial events. Items are weighted for scoring purposes according to criteria provided by pediatricians, teachers and mental health professionals. For instance, the death of a parent has a weighted value of 109 points, while beginning grade one has an item weight of 20 points. In essence, the LES provides useful information for assessing Axis IV of the DSM - III regarding recent psychosocial stressors.

The LES is reported to take about five minutes to complete and about the same amount of time to score. The scoring basically consists of adding up the weighted magnitude for each item endorsed and the time period chosen (3, 6, 9 or 12 months). The final score is a total stress score which can then be compared to the general child population.

From a psychometric standpoint, Coddington (1983) reported test-retest reliability to be .92 among the initial validation sample of teachers, pediatricians and mental health professionals. Test-retest reliability in young adults was reported to be .87 over an eight month span. For children, the correlations were less stable, ranging from .69 on a three month interval to .67 at a seven month interval, with the mother providing the information for a child (Coddington, 1983). Williams and Vincent (1987) noted that these lower correlations appear to be characteristic of assessment in children. "When comparing this to the seven week correlation of test-retest reliability on the Personality Inventory of Children (PIC), a .71 correlation was obtained for the PIC and is quite comparable to the .69 for the LES obtained at a three month interval" (p.390).

Regarding validity, the test author reported that children who were behavior problems in a classroom were found to be experiencing higher levels of environmental stress than the general child population (Coddington, 1983). In addition, a high degree of stressful life events of children hospitalized for medical reasons has also been found (Heisel et al., 1973).

Williams and Vincent (1987) concluded that the LES appears to have some degree of predictive validity regarding the relationship between environmental stress and its effect on children's physical and mental health, as well as on their achievement and behavior. "This scale is a viable, easily administered tool by which the professional can gain insight into the stressful life events that have occurred in a child's environment in the recent past...in a brief amount of time" (p. 391).

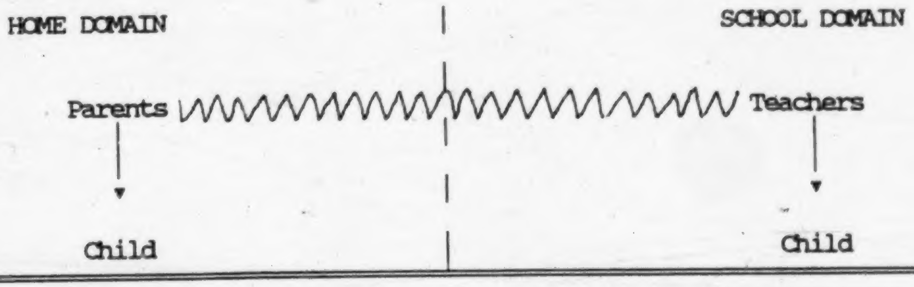
Family-School Relationship Patterns

In a recent article, Power and Bartholomew described and analyzed five family-school relationship patterns using an ecological, systemic model. These authors hypothesized that a series of family-school interactional behaviors repeated over and over tend to evolve into relationship patterns, which are relatively stable and self-perpetuating. They cited five different relationship patterns: avoidant, competitive, collaborative, one-way and merged. These patterns are illustrated in Figure 4. Power and Bartholomew postulated that the general pattern and the specific form that a home-school relationship assumes at a given time depends upon numerous ecological influences.

For the purposes of this study, interview and observation data

THE AVOIDANT RELATIONSHIP

In an avoidant relationship, there is a symmetrical transactional boundary between family and school which is rigid and impermeable. This type of relationship may, at times, be quite adaptive for parents and teachers, but it can be very harmful to the child. When there is an avoidant relationship, important information is often not communicated and there is little collaboration in planning and implementing educational strategies that will benefit the child.



THE COMPETITIVE RELATIONSHIP

In a competitive relationship, there is a symmetrical sequence and a diffuse boundary between family and school. School personnel and family members attempt to extend their influence into the other's domain. Each party tries to position itself at a higher level in the hierarchy than the other. The conflict that inevitably emerges can become highly amplified and hostile.

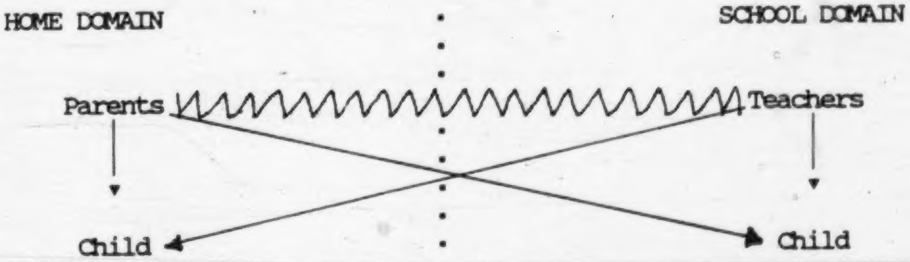
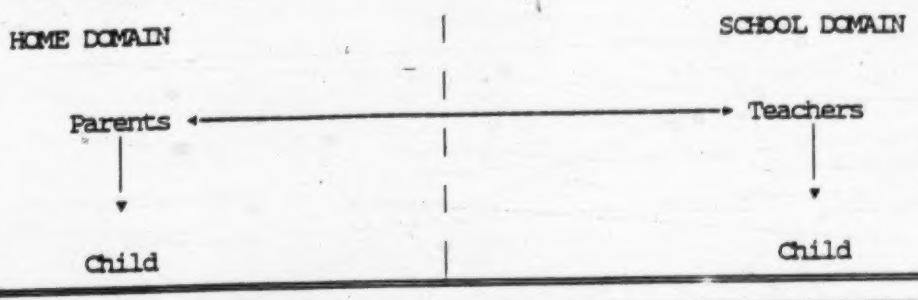


Figure 4
Patterns Of Home - School Interaction
Adapted From: Power And Bartholomew (1987), pp. 500-509.

THE COLLABORATIVE RELATIONSHIP

In a collaborative home-school relationship, there is a clear boundary between family and school. Parents and teachers defer to each other in their respective domains. Moreover, the sequence of the relationship is reciprocal: at times, parents will take the initiative and lead while at other times, teachers will. As such, the role of each party is not rigidly determined and flexibly changes according to situational demands. The dashed line represents a clear, yet permeable boundary between home and school. Parents and teachers exercise ultimate authority in their respective domains. The two-headed arrow illustrates that parents and teachers are involved reciprocally in a working alliance.



THE ONE-WAY RELATIONSHIP

The one-way relationship involves attempts at communication by one party that are stymied by avoidant patterns of the other. The parallel solid and dashed lines indicate that only one party, in this case the parents, is interested in communicating. The other party is closed to receiving and reciprocating the communication. Arrangements such as this can be very frustrating for the initiating party, yet do not last long. The initiator generally feels compelled to either attack the other party or to withdraw.

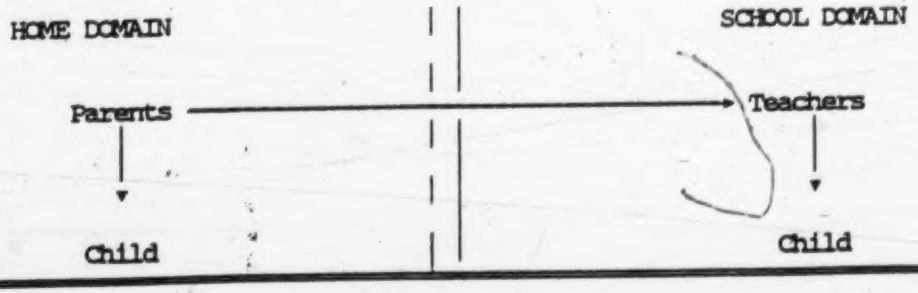


Figure 4 (Continued)
Patterns Of Home - School Interaction
Adapted From: Power And Bartholomew (1987), pp. 500-509.

THE MERGED RELATIONSHIP

In a merged relationship, there is no clear demarcation between family and school domains; the goals and purposes of each system merge together as parents and teachers join efforts to promote a common cause which may entail rejection and isolation of the child. The merged relationship can take two forms: merged-cooperative or merged-complementary. In a merged-cooperative relationship, parents and teachers develop a working alliance, but there is a diffuse boundary between them. Each party informally agrees to support the other, usually at the expense of the child. In a merged-complementary relationship, one party is invited to extend the limits of their responsibility beyond their own domain by the other party, who gradually assumes less responsibility for the child. Usually children feel trapped by the merger of the systems as well as betrayed by the passivity of one party, often the parents, and behavior problems exacerbate. Eventually, parents and teachers become equally frustrated and merge efforts to "cope" with the "impossible" child.

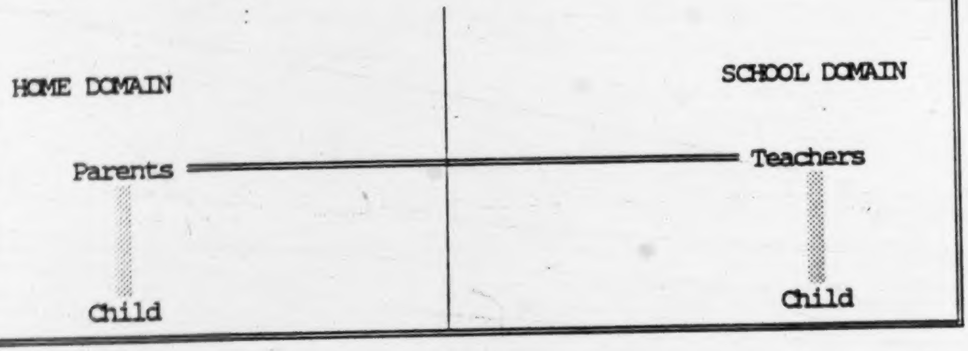


Figure 4 (Continued)
Patterns Of Home - School Interaction
Adapted From: Power And Bartholomew (1987), pp. 500-509.

relevant to these five patterns was collected for each of the target subjects. Each family was categorized according to criteria described by Power and Bartholomew for each distinct pattern. From a qualitative perspective, the possible effects of the independent variables on these dysfunctional patterns was closely monitored.

Intervention Techniques

The independent variables in this study were two intervention strategies used to manipulate the problem behavior of behavior disordered pupils in a self-contained special education classroom. Specifically, a teacher-directed peer confrontation approach devised by Bellafiore and Salend (1983) and four specific techniques for establishing ecological home-school linkages served as independent variables. A brief description of how each of these strategies was applied by the teacher in this investigation follows.

Teacher-Directed Peer Confrontation Approach

Bellafiore and Salend (1983), Sandler, Arnold, Gable and Strain (1987) and Savicki (1981) have previously provided empirical support for the effectiveness of a teacher-directed peer confrontation approach. Using this approach, the BMC teacher initially directed behavior disordered classmates to (a) identify a problem behavior exhibited by a target subject, (b) specify why that particular behavior was a problem and (c) indicate what changes were appropriate. With each step, a peermate was chosen to respond to the following questions:

______seems to be having a problem. Who can tell him what the problem is?

Can you tell ______ why that is a problem?

Who can tell ______ what he needs to do to solve the problem? (Arnold, Gable and Strain, 1987).

The teacher verbally encouraged the pupils who responded positively to these questions/prompts and both the teacher and the peers verbally and gesturally encouraged the target subject for accepting and following the alternatives to the behavior being discussed. The specific use of this procedure is illustrated in the following example.

Bill was having a great deal of difficulty understanding the mathematics sheets that he had been assigned at the beginning of the class. As a result, he was very frustrated, but unwilling to ask the BMC teacher for assistance. When the classroom aide asked him why he wasn't working on his assignment, Bill responded by swearing at her and running out of the classroom. After a ten minute talk with the teacher, he returned to his desk. Once Bill had regained his composure, the BMC teacher used the peer confrontation procedure to identify his profane language and angry exit from the classroom as a problem. Bill's classmates indicated that these behaviors were a problem because they disrupted the work of the other pupils in the class. They also noted that Bill could have reduced his frustration by either approaching the teacher at her desk for help or by simply raising his hand to gain the aide's attention.

During baseline sessions, the BMC teacher responded to the target subjects' problem behavior in her usual manner, using existing classroom management techniques and strategies.

Ecological Home-School Linkages

Four strategies were used by the BMC teacher to strengthen the child-based home-school linkage:

(1) Improvement Book: Each target subject was given an improvement book at the beginning of the intervention phase of the study. When the target subject exhibited an appropriate behavior, the BMC teacher had the choice of calling him up to the front of the class. The teacher then verbally described the positive behavior to the whole class. In the improvement book, the teacher described the behavior, indicated how it benefitted the whole class and signed the bottom of the page. The target subject then took the book home after school and read this entry to his parent(s), who, in turn were also requested to sign the page. The improvement book was then to be returned to school the next day and placed in the target subject's desk. A sample page from an improvement book has been included in Appendix E.

(2) Positive Telephone Call: On a weekly basis, the BMC teacher or school principal called the target child's parent(s) to provide a report on the positive progress that was made.

(3) Goal Of The Week: At the beginning of each week, each pupil selected a behavioral goal to concentrate on at school. The goals of all six pupils were written on a single 8 1/2" x 11" sheet of paper. A copy of this sheet was sent to all six sets of parents.

(4) Classroom/Parent Support Group Meetings: Each set of parents was invited to a monthly, evening meeting once all six pupils were in the intervention phase of this study. The function of this meeting was to inform the parents of classroom activities, discipline techniques that appeared to work well for individual pupils and to discuss the progress of each of the children in the classroom. The meeting also served as a parent support group.

Design

This study involved a multiple baseline across subjects design (Barlow and Hersen, 1984; Kazdin, 1982; Kratochwill, 1978; Tawney and Gast, 1984). This design is often used in group settings, such as a classroom or psychiatric ward, where the performance of a particular target behavior may be a priority for all group members (Kazdin, 1982, p. 134). In addition, the multiple baseline across subjects design responds to each of these considerations: (1) it targets a common skill across several subjects; (2) it staggers instruction to allow for rate differences and (3) it permits researchers to validate treatment effectiveness across several subjects, thereby enhancing the generality of findings (Tawney and Gast, 1984, p. 258).

In addition, the multiple baseline across subjects design does not depend on withdrawing treatment to show that behavior change is a function of the intervention. Hence, there is no need to reduce or temporarily suspend treatment effects for purposes of the design.

This characteristic makes this design a highly preferred alternative to ABAB designs and their variations in many applied settings (Kazdin, 1982, pp. 148-9). This ethical consideration was heavily weighed in selecting a design for the present investigation. Given the nature of the independent variables and their possible effectiveness in reducing self- or other-destructive behaviors, the use of other design alternatives was deemed to be inappropriate.

Procedure

There were six parent-child pairs, a BMC teacher, a classroom aide, a school counsellor, a behavior consultant and an independent observer involved in this research study. The teacher had ten years of elementary school teaching experience, none of which was in her present capacity. Educationally, she had earned a Bachelor of Education degree, but had not taken any special education courses. The classroom aide was a mother of three children, ranging in age from eighteen to twenty-three years. She had seven years of classroom experience, all of which were in her present capacity. The school counsellor involved in the study had eight previous years of experience related to behavior disordered pupils. The role of the behavior consultant involved consulting with the teacher and parents and preparing recommendations for the management of the subjects both at school and at home. This individual, who was the major researcher in the present study, had fourteen years of experience in a variety of roles relating to regular and special education pupils.

The investigation was conducted during the fall and winter of the 1989-90 school term and lasted approximately seventeen weeks, from

October 1989 to February 1990. Prior to the study, the BMC teacher and classroom aide were trained for three weeks in the use of the assessment and intervention techniques. During the same time period, the school counsellor was inserviced on the use of various assessment and data collection procedures. The independent observer was also trained in the use of the Direct Observation Form of the CBCL.

Early in September, parents of the six behavior disordered pupils in the BMC program were contacted and asked to participate in the present research study. After written consent was obtained, these parents were interviewed, using the Child Home Checklist (CHC) and Child Community Checklist (CCC) ecological interview format outlined by Wahler and Cormier (1970). The parents were also requested to complete the Parent Form of the Child Behavior Checklist (CBCL: PF: Achenbach and Edelbrock, 1983) and the Life Event Scale - Children (LES: Coddington, 1981), to which they readily consented. Following the interviews with both the parents and teacher, the behavior consultant used the procedures outlined by Power and Bartholomew (1987) to determine each family's "family-school relationship pattern".

Two days before the start of the baseline phase of the study, the school counsellor individually administered the Student Rating Scales (Home, School, Peer) and Sociogram from the Behavior Rating Profile (BRP) to the pupils in a quiet room adjacent to the classroom. In order to circumvent any reading problems that the pupils may have had, items were read aloud to them. The teacher was then interviewed by the behavior consultant, using the Child School Checklist (CSC) ecological interview format. In addition, the teacher was asked to complete the Teacher Form of the CBCL for each of the subjects in the study.

Observational data was collected, using the Direct Observation Form of the CBCL, by the independent observer and the classroom aide during two separate 30 minute periods each day (during a teacher-directed lesson, between 9:15 and 9:45 A.M. and during a quiet, free-time period, between 2:00 and 2:30 P.M.). Reliability, in terms of interobserver agreement was checked once per week, by having both observers collect observational data during the same interval. This study employed the most frequently used method of calculating interobserver agreement (Haynes, 1978), based on agreement and disagreement within each sampling interval, which was obtained by dividing the number of agreements by the number of agreements plus disagreements.

Target subjects were randomly selected to receive the intervention strategies. At the conclusion of the intervention and followup phases of this study, all instruments were readministered. The followup phase commenced immediately after each of the subjects received the intervention and showed stable treatment effects. Both the parents and the BMC teacher were reinterviewed two days after the end of the treatment period and during followup, using the appropriate ecological interview formats. All checklist and rating scale data, observational data and interviews were collected, scored and analyzed by the investigator to ensure uniformity.

CHAPTER IV

RESULTS

Introduction

This study investigated the effects of several intervention strategies on six male pupils enrolled in a self-contained special education class for elementary school aged children with behavior disorders.

Problem behavior, the key variable of concern in this multiple baseline across subjects design, was assessed by two formal, norm-referenced instruments and four informal instruments. Both a quantitative and qualitative approach to assessment, data analysis and interpretation was used in this investigation. Using the Direct Observation Form of the CBCL (CBCL: DOF), observational data was collected on a daily basis, during baseline, intervention and followup phases of this study. To determine the quantitative effects of the intervention program, this data was analyzed in two ways. First, the data was evaluated using the Time Series Analysis (Parts 1 and 2) program (Bower, Padia and Glass, 1974), with a significance level set at $p < .05$. Secondly, the CBCL: DOF scores were transformed using the "split-middle" technique (Kazdin, 1982), as a means of describing the rate of behavior change over time for each of the target subjects. A visual inspection of graphic data obtained from this transformation was conducted to identify intervention effects.

Scores derived from baseline, intervention and followup data from the parent and teacher forms of the CBCL were interpreted as a second quantitative aspect of this study. This data was evaluated using a repeated measures analysis of variance (Ferguson, 1981), with a significance level set at $p < .05$. A visual analysis of graphic data (Tawney and Gast, 1984) obtained from these instruments was also conducted.

An indepth, subjective evaluation of the behavior of each of the six individual pupils was completed at the baseline, intervention and followup phases of this study as qualitative input. Ecological interview data gleaned from the CHC, CSC and CCC checklists and the results of the CBCL: DOF were evaluated in this regard. This social validation procedure was used to determine the clinical significance of the behavior changes displayed by each of the target subjects (Kratochwill, 1978). This process of having each target subject, his parents, teachers and peers subjectively evaluate the magnitude of any measured behavior change addressed the question of whether or not each pupil actually reached a "therapeutic criterion" (Kazdin, 1984).

Four exploratory variables were also examined during the course of this study. To determine whether the intervention had an influence on the relationship between each subject's parents and the school staff, data obtained from an ecological assessment of family-school assessment patterns (Power and Bartholomew, 1987) was evaluated in a qualitative manner. Second, the results of the Life Event Scale - Children (Coddington, 1981) were scrutinized to determine whether any observed treatment effects may have been confounded by stressful life events experienced by the target subjects during the course of this study. Thirdly, scores derived from differential baseline, intervention and followup administrations of the Student Rating Scales of the Behavior Rating Profile (BRP) were subjected to a quantitative analysis to determine whether the treatment had discernible effects on the subjects' perceptions of their own behavior. Analysis of this data was conducted using a repeated measures analysis of variance (Ferguson, 1981), with a significance level set at $p < .05$. Finally, a qualitative analysis of the BRP Sociogram was undertaken to evaluate changes in the subjects' peer relationship patterns during the three phases of this investigation.

In order to promote clarity, the chapter is divided into a number of sections. First, an overview of the results of each hypothesis is presented, followed by both quantitative and qualitative analysis of the data. Finally, an examination of the four exploratory variables observed during the course of the present investigation is presented.

Hypothesis 1

As a function of the intervention strategies used in the classroom, the number of target problem behaviors exhibited by the subjects in the behavior disordered classroom will be significantly reduced. Problem behavior was operationally defined and measured by the Child Behavior Checklist - Direct Observation Form (CBCL: DOF), Child Behavior Checklist - Teacher Report Form (CBCL: TRF) and the Child School Checklist (CSC). This hypothesis was confirmed for the CBCL: DOF and CBCL: TRF and supported by the results of the CSC.

Quantitative Results And Analysis Of Child Behavior Checklist - Direct Observation Form (CBCL: DOF) And Teacher Report Form (CBCL: TRF)

The data displayed in Table II suggests that the mean level of problem behavior exhibited by each of the subjects declined from baseline to intervention and again from intervention to followup.

TABLE II

MEAN TOTAL PROBLEM BEHAVIOR T SCORES
ON THE
CHILD BEHAVIOR CHECKLIST - DIRECT OBSERVATION FORM

Subject	Baseline	Intervention	Followup
Allan	90.6	82.1	79.2
Bill	82.7	78.5	70.8
Dick	85.5	69.2	66.6
Daniel	94.8	87.6	83.9
Mick	89.2	77.6	67.7
Corey	77.8	65.3	64.8

The reliability of these observations, in terms of interobserver agreement, was determined by having both observers make observations simultaneously at weekly intervals. Based on the most frequently used method of calculating interobserver agreement (Haynes, 1978), reliability was determined to be .94.

As illustrated in Table III, an analysis of CBCL: DOF baseline/intervention data revealed that each of the subjects exhibited a significant reduction in problem behaviors. Interestingly, this decline was significant at the .01 level for five of six subjects. Likewise, intervention/followup results for four subjects were also significant at the .01 level. These findings may be indicative of the treatment used.

Figure 5 illustrates CBCL: DOF data that was transformed using the "split-middle" technique (Kazdin, 1982). A visual analysis of this graphic data clearly suggests that baseline/intervention/followup effects were generally consistent and in the expected direction. Significant changes in both slope and level were evident between baseline and intervention phases for most of the subjects. A visual inspection of the slope and level of the intervention/followup data suggests that intervention effects were generally maintained during the followup phase of this investigation.

The results of a repeated measures analysis of variance performed on teacher-rated CBCL: TRF data was in the expected direction. This analysis indicated that there was a significant reduction in problem behavior across the three phases ($F = 19.20$, $DF = 2, 10$, $p < .001$). Further analysis, using Scheffé procedures, indicated that there were significant differences between baseline and intervention,

TABLE III

BASELINE/INTERVENTION/FOLLOWUP T VALUES ON THE CHILD BEHAVIOR CHECKLIST - DIRECT OBSERVATION FORM

SUBJECT	Baseline To Intervention			Intervention To Followup		
	Change	DF	t Value	Change	DF	t Value
Allan	- 8.21	30	- 3.38 **	- 1.71	69	- 1.01
Bill	- 3.99	37	- 1.98 *	-18.97	63	- 2.99 **
Dick	-16.25	42	-11.93 **	- 4.50	58	- 2.72 **
Daniel	-11.32	48	- 7.34 **	- 9.91	51	- 2.49 **
Mick	-13.04	54	-11.02 **	- 0.36	45	- 4.55 **
Corey	- 0.12	59	- 9.44 **	- 0.32	41	- 0.10

* significant at the .05 level

** significant at the .01 level

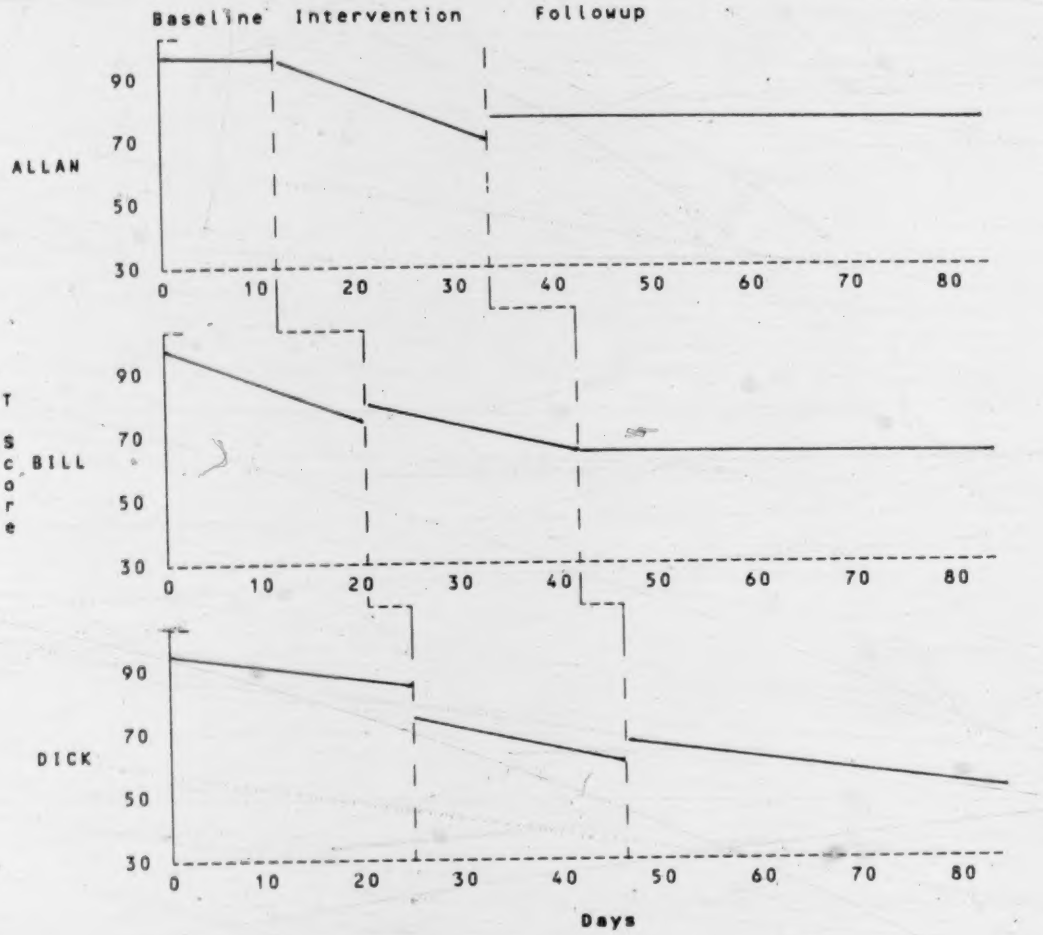


Figure 5
Total Problem Behavior T Scores
On The
Child Behavior Checklist - Direct Observation Form
Across Baseline, Intervention And Followup Conditions

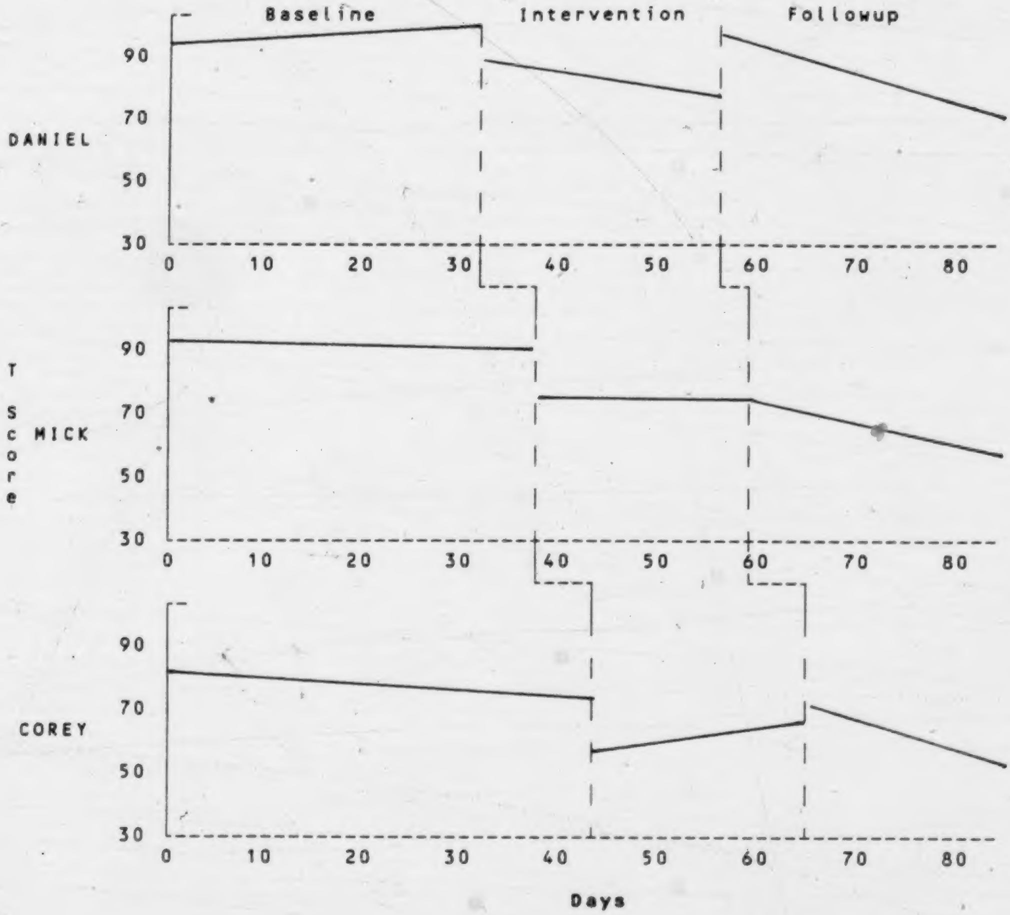


Figure 5 (Continued)
Total Problem Behavior T Scores
On The
Child Behavior Checklist - Direct Observation Form
Across Baseline, Intervention And Followup Conditions

intervention and followup and baseline and followup, as illustrated in Table IV.

In summary, the results of both the CBCL: DOF and CBCL: TRF substantiated Hypothesis 1 by confirming that the subjects exhibited a significant reduction in problem behaviors following intervention.

Qualitative Results And Analysis Of Child School Checklist (CSC) And Child Behavior Checklist - Direct Observation Form (CBCL: DOF) Data

Results of the ecological interviews between the researcher and the BMC teacher, using the Child School Checklist (CSC), strongly supported the baseline/intervention/followup total problem behavior score data findings of the CBCL: TRF and CBCL: DOF. As illustrated in Table V, each of the target subjects exhibited fewer problem behaviors at the end of the intervention phase than before. Further, these results clearly suggested that the effects of the intervention were maintained during the followup phase of the investigation.

As a group, the total number of problem behaviors observed during baseline steadily declined throughout the intervention and followup phases. This trend is clearly evident in Figure 6. The BMC teacher noted that this decrease in disruptive behaviors was evident in both morning and afternoon classes. Further, she indicated that the behavioral improvement of the subjects was also observed in other school settings, such as the playground, hallways and lunchroom, following the intervention period. The teacher observed that, as a group, the subjects were considerably more prepared for integration into a regular classroom setting following the application of the intervention than before. A closer examination of the behavioral

TABLE IV

RESULTS OF SCHEFFE TESTS FOR DATA OBTAINED FROM THE CHILD BEHAVIOR CHECKLIST - TEACHER REPORT FORM

Phase	Required Difference	Observed Difference
Baseline To Intervention	5.40	10.50 *
Intervention To Followup	5.40	2.83
Baseline To Followup	5.40	7.67 *

* significant at the $p < .05$ level

TABLE V

NUMBER OF TEACHER-RATED PROBLEM BEHAVIORS ON THE CHILD SCHOOL CHECKLIST (CSC)

Subject	Baseline	Intervention	Followup
Allan	100	60	60
Bill	39	14	15
Dick	60	32	24
Daniel	175	102	89
Mick	179	67	65
Corey	82	73	64
TOTAL	635	348	317

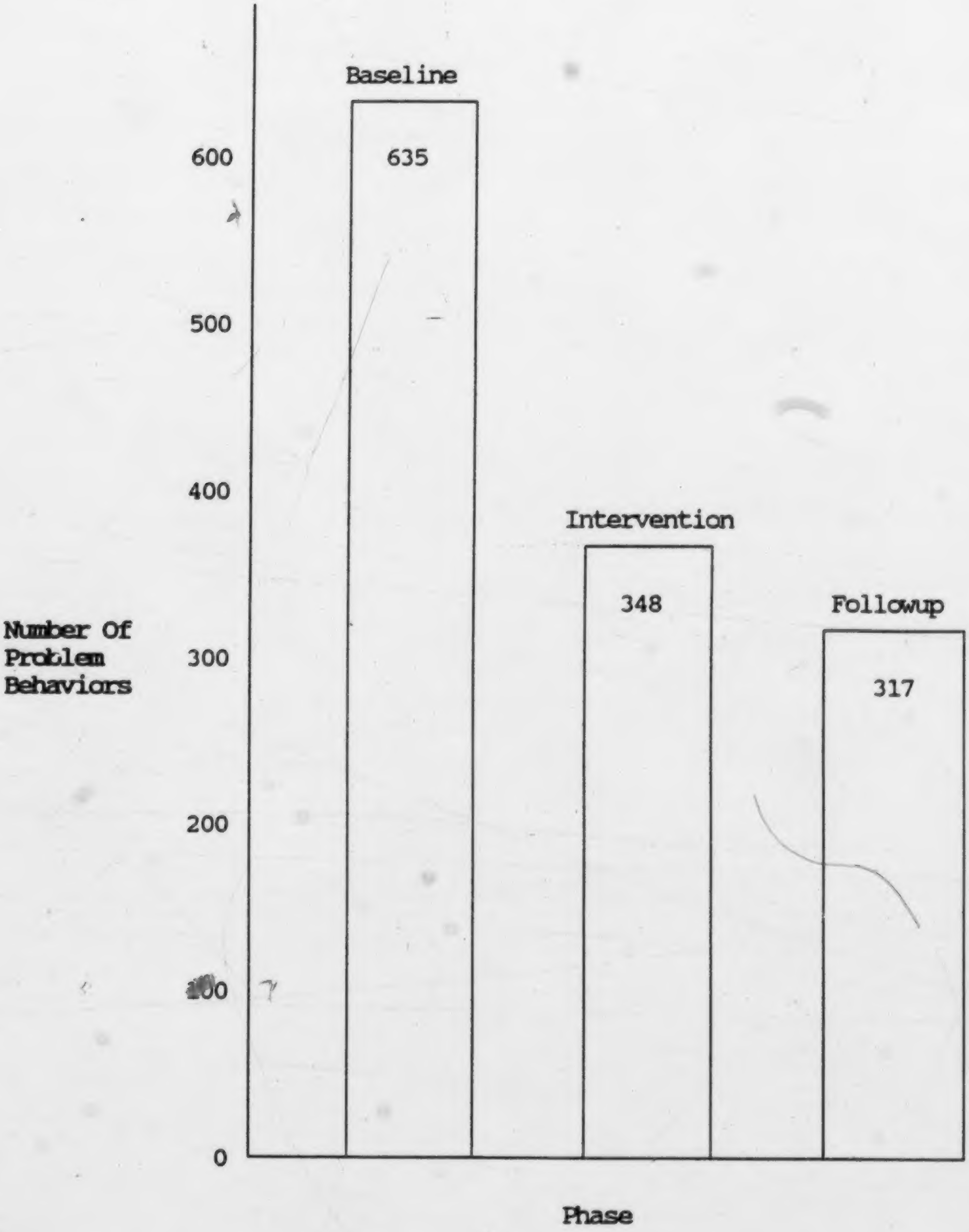


Figure 6
Total Number Of Problem Behaviors Identified At
Baseline, Intervention And Followup
On The
Child School Checklist (CSC)

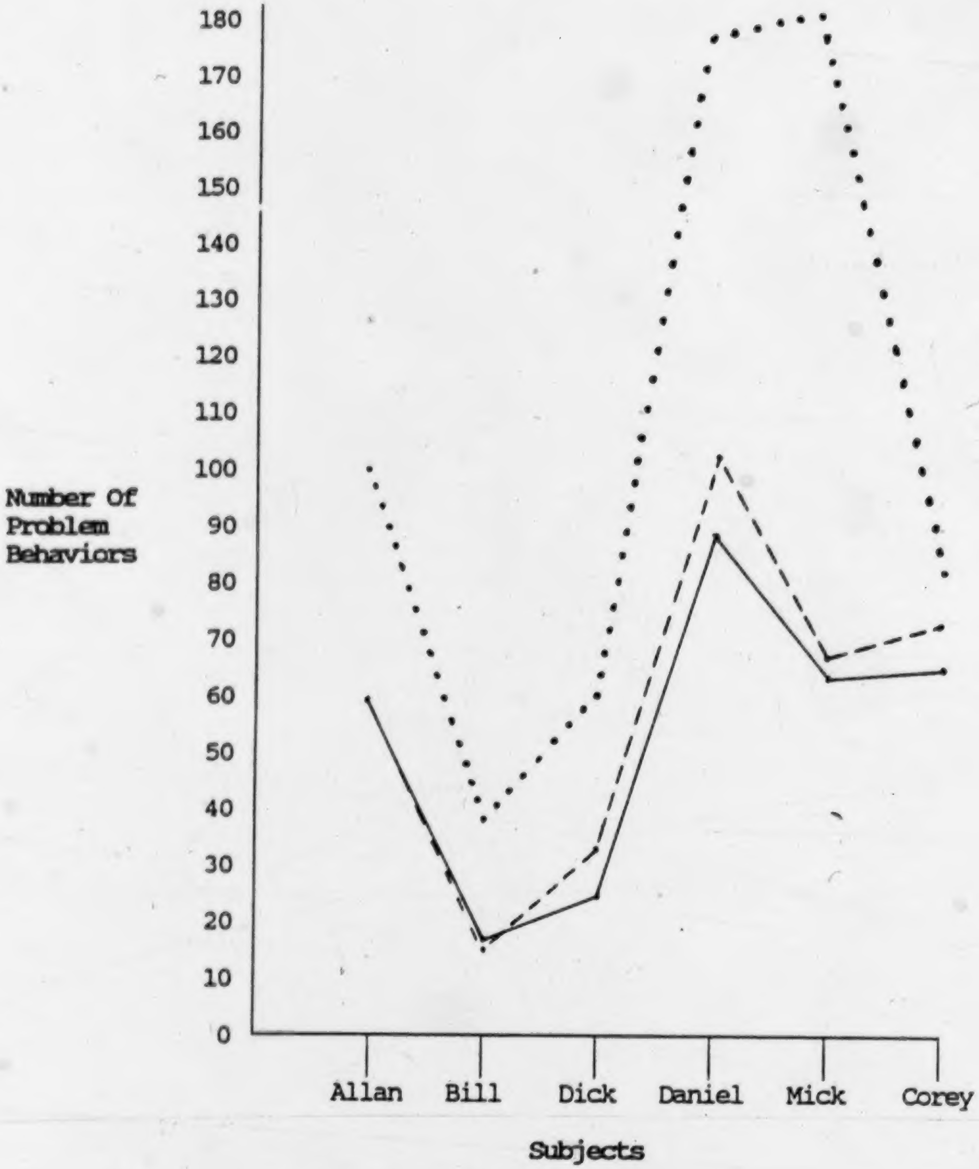
changes exhibited by individual subjects follows.

Allan

Throughout the baseline phase of the present investigation, Allan exhibited the same inappropriate behaviors that initiated his referral to the BMC program. Specifically, the BMC teacher described him as being "restless, nervous, high strung, tense and impulsive". During class time, Allan acted in a very defiant, disobedient manner and frequently disrupted the BMC teacher's lessons by humming and making odd noises, talking out of turn, screaming and destroying assignment books and crayons. When asked to work on written assignments or participate in group discussions, Allan complained and refused to cooperate. At least once each day, he exhibited explosive, unpredictable temper tantrums that lasted between five and ten minutes.

Academically, Allan seldom completed assignments and had a great deal of difficulty concentrating for more than fifteen minutes at a time. He was easily frustrated and when he needed assistance with an assignment, he expected either the BMC teacher or the classroom aide to immediately respond to his demands. Among his peers, Allan was neither popular nor well-liked. He routinely bullied and threatened his classmates, which quickly escalated to physical attacks and fights in the classroom, on the playground and in the lunchroom. Allan was described by his teacher as being very jealous of his peers. Apparently, he also often expressed the feeling that his BMC classmates were "out to get him".

As illustrated in Figure 7, the number of problem behaviors that



1. Baseline (...)
2. Intervention (——)
3. Followup (——)

Figure 7
Number Of Problem Behaviors Identified At
Baseline, Intervention And Followup
On The
Child School Checklist (CSC)

Allan exhibited following the intervention period decreased quite noticeably. While he continued to exhibit problem behavior in the classroom, it was reported that Allan's baseline difficulties in the halls, in the lunchroom and in recess lineups were virtually extinguished at the conclusion of the study. Similarly, the BMC teacher observed a notable decline in both the intensity and duration of his inappropriate behavior during the intervention and followup phases of this study. Allan's temper tantrums, for example, were less frequent (an average of once per week) and tended to last less than five minutes. An examination of the celeration lines in Figure 8 illustrates a change in both the slope and level of the Allan's behavior from baseline to intervention. Clearly, these behavioral improvements were maintained during the followup phase of this investigation.

At the end of the followup phase, the BMC teacher concluded that although Allan still had discernable difficulties sustaining attention, he seemed to be able to exert more self-control. He responded more favorably to his teacher's efforts to help him calm down and seemed to accept the suggestions for more appropriate ways to vent his frustrations offered by his classroom peers. From an affective standpoint, the BMC teacher described a growing, consistent effort on Allan's part to try not to hurt the significant adults in his life. For instance, if he gave a compliment to the classroom aide, he felt it was very important to also give one to his teacher. Likewise, if he made something at school for his mother, he insisted that he be given the materials and time to construct something similar for his father. Although she did not consider Allan prepared to

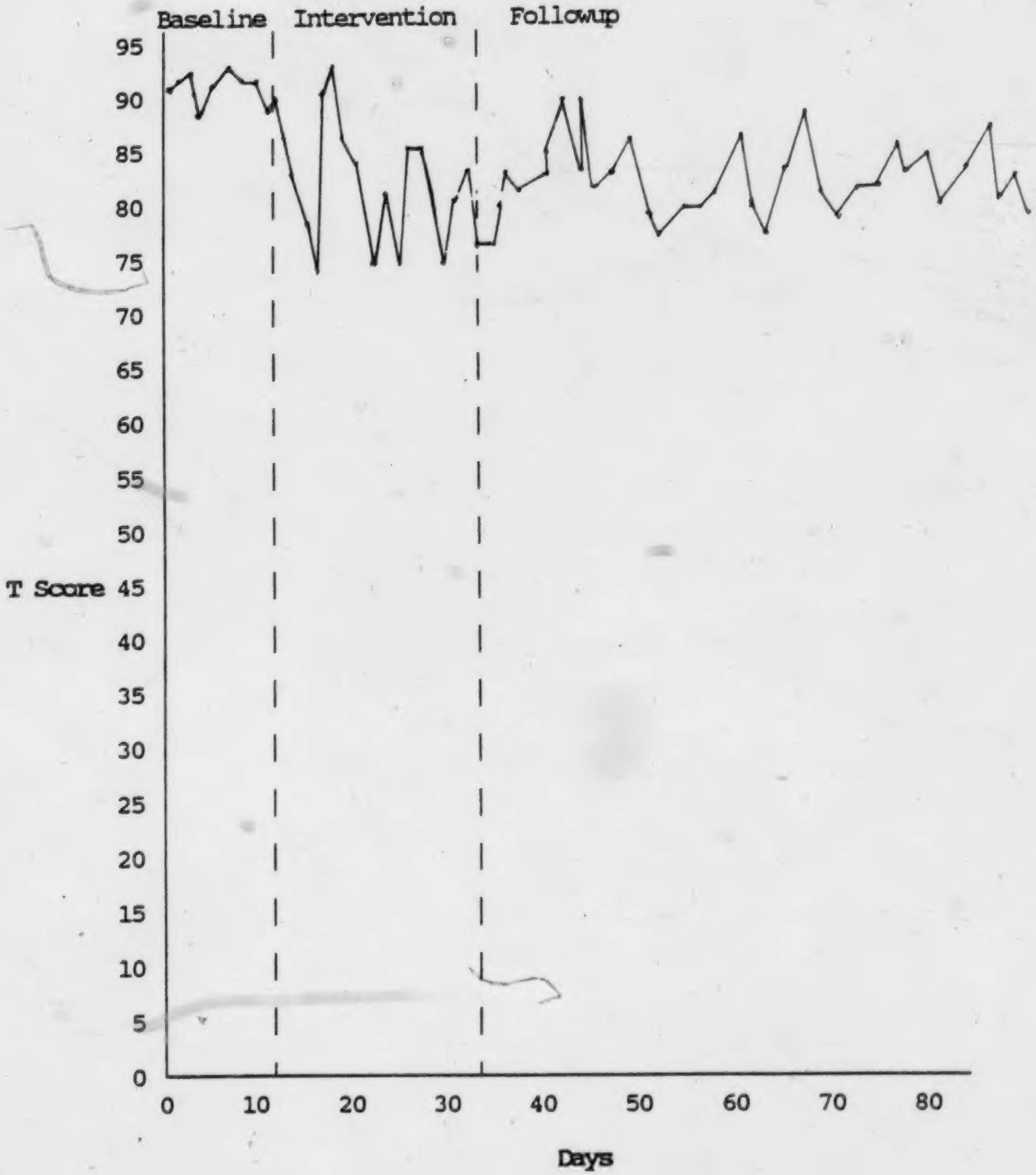


Figure 8
Subject: Allan
Child Behavior Checklist - Direct Observation Form
Total Problem T Scores
At Baseline, Intervention and Followup

be fully reintegrated in a regular class setting, the BMC teacher noted that he was integrated into a grade three phys. ed. and social studies during the followup phase of the study.

Bill

A discernable decline in the number of problem behaviors Bill exhibited between baseline and the end of the intervention period is apparent in Table V. Interestingly, the most significant characteristic of this reduction in problem behaviors was the time of day in which they occurred. At baseline, the number of problem behaviors exhibited by Bill at school were relatively evenly split between the morning and afternoon (21 vs. 18). In contrast, Bill's performance during both the intervention and followup phases indicated that he exhibited relatively few problem behaviors in the afternoons (3 of 14 during intervention, 3 of 15 at followup). The BMC teacher confirmed that Bill was virtually indistinguishable from his regular grade three counterparts during afternoon classes. She indicated that Bill clearly seemed to be the most unsettled in the morning and seemed to become more comfortable at school as the day progressed. Data obtained from the ecological interviews with the classroom teacher also confirmed that Bill seemed to reach a behavioral plateau during the followup phase. Figure 9 illustrates this trend. This notion will be discussed later in this section.

Academically, Bill showed steady and significant growth throughout the intervention and followup phases of the study. The BMC teacher attributed this result to a greater willingness to learn on his part rather than any specific remedial activities. Choosing not

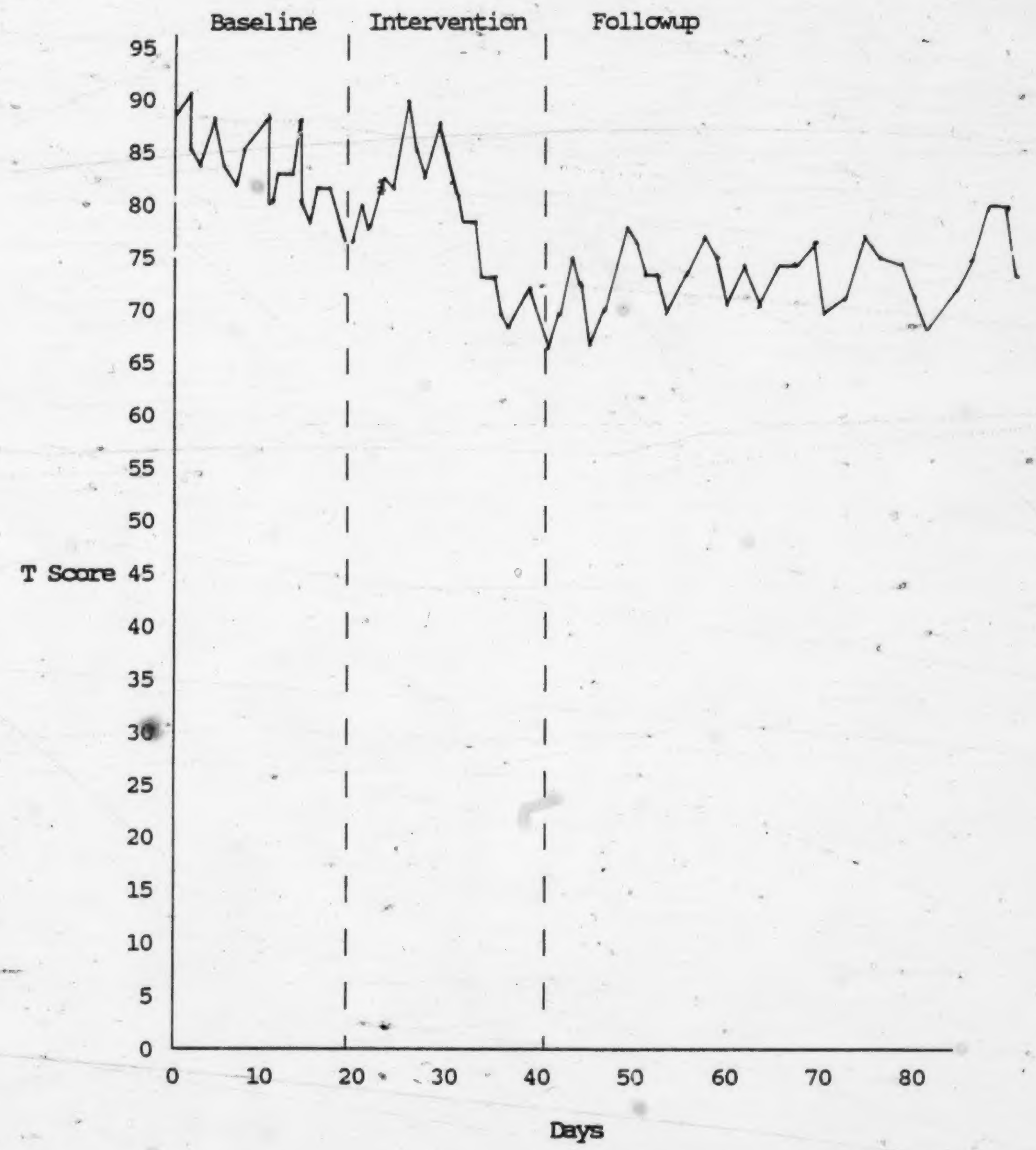


Figure 9
Subject: Bill
Child Behavior Checklist - Direct Observation Form
Total Problem T Scores
At Baseline, Intervention and Followup

to learn, as a means of showing defiance and opposition, was very characteristic of Bill during the baseline phase. The teacher indicated that he would use even the simplest assignment as a means of provoking a power struggle.

Within the affective domain, two significant changes in Bill's behavior were highlighted by the BMC teacher. First, the verbal and physical hostility, lack of trust and emotional involvement that were typical of his reaction to the teacher and aide at the beginning of the study changed dramatically. The teacher and aide described Bill as being "affectionate" and very concerned about being forgiven for his misbehavior during the latter half of the intervention and throughout the followup phase. The teacher hypothesized that early in the study Bill would deliberately become physically assaultive so that he had to be physically restrained. In contrast, Bill was later able to ask for a hug from his teacher several times each day to gain the physical contact that he appeared to need, without having to misbehave.

A second major affective change in Bill's behavior focused on the manner in which he dealt with anxiety. The BMC teacher explained that foul language and unprovoked physical attacks on classmates were two obvious indicators that Bill was worried about something during the baseline phase. She observed that most of these worries centered around his lack of contact with his family and where and with whom he would be living in the future. During the final two phases of the study, Bill seemed to internalize his anxiety a great deal more as evidenced by his nervous fidgeting and the number of physical complaints (headaches, stomach aches) he reported. In addition, he frequently fabricated stories about having a great many relatives in the Edmonton area and about seeing his biological mother on a regular basis. Overall, these concerns about his family were viewed by his teacher and the classroom aide as the major reason for the behavioral plateau that Bill seemed to experience during the latter part of the study.

Sensing that Bill's behavior pattern was shifting to a passive destructive level, the teacher asked Bill whether he was open to discussing his concerns with the school counsellor. He reluctantly agreed on the condition that his teacher would also attend the first session. By the end of the followup phase, Bill had seen the counsellor four times on his own and seemed to be willing to continue to do so. This was viewed as a positive behavioral alternative to the active destructive behaviors that Bill exhibited early in the study in response to the stress he felt. During the final interview with the researcher, the BMC teacher reported a modest decline in the number of passive destructive behaviors exhibited by Bill.

Dick

Dick's history of provoking power struggles prior to his admission to the BMC program was clearly in evidence during the baseline phase of this investigation. During her first interview with the researcher, the BMC teacher described how Dick would go to any length "to get his way" for the first two and a half months of the school year. Two or three times per week he would throw his desk and all of its contents around the classroom, as a part of an enraged, explosive temper tantrum. Many more times each week he would rock back and forth in his desk, muttering obscenities, while refusing to do any school work. While the number of these inappropriate behaviers clearly declined, as shown in Figure 7, the teacher also reported a significant reduction in the intensity and duration of behaviors exhibited. For instance, Dick had not thrown his desk or its contents around the classroom since the middle of the intervention phase. Similarly, Dick's mild temper tantrums were usually over in less than two minutes at followup - a fraction of the time that they lasted prior to intervention. This reduction in the number,intensity and duration of Dick's inappropriate actions is accounted for in Figure 10.

Despite possessing a great deal of academic ability, Dick was not achieving at a rate commensurate with his potential. At baseline, the BMC teacher described Dick as a "perfectionist", who was seldom satisfied with the work he produced in class. As a result, he routinely tore up his half-completed assignments and screamed that he was "no good at school". Dick responded to the teacher's pre-intervention attempts to help him by being stubborn and defiant. Typically, he called the teacher an expletive and walked out of the classroom. On several occasions, he also tore displays off the wall as he left.

During the next two interviews with the researcher, the BMC teacher described a complete turnabout in Dick's academic performance. She indicated that the use of the improvement book and the positive telephone call home were most effective in encouraging Dick to want to learn. When the peer confrontation technique was applied, Dick was invited by Daniel and Bill to help them with their work if he became

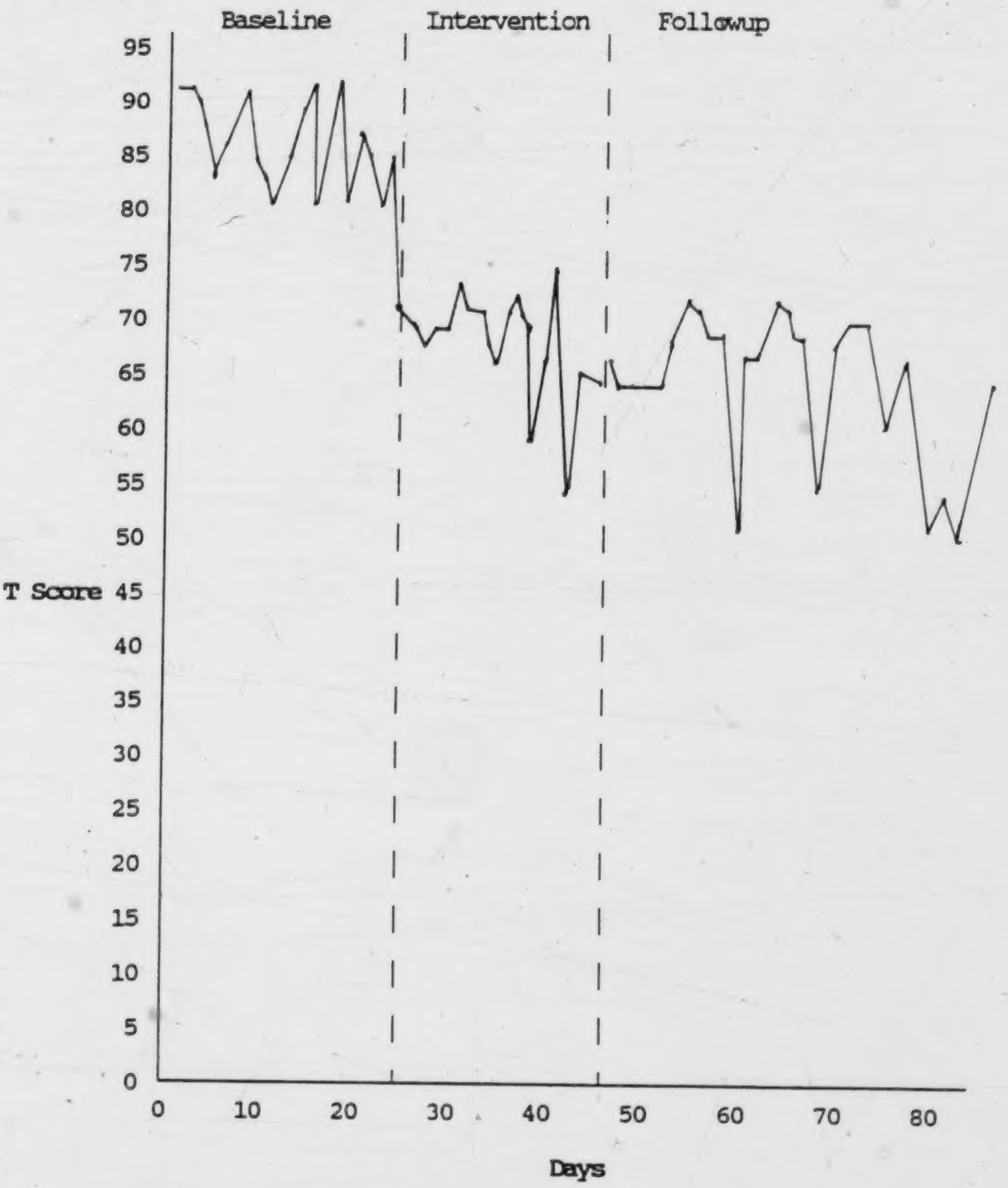


Figure 10
Subject: Dick
Child Behavior Checklist - Direct Observation Form
Total Problem T Scores
At Baseline, Intervention and Followup

frustrated with his own. With some coaxing from his teacher, Dick agreed to try this new procedure, which proved to be very functional. This strategy had two discernible effects. First, it helped Dick to acknowledge that it was acceptable to make some mistakes and to ask for assistance. Secondly, it provided him with an opportunity to be a positive leader in the classroom, a trait which endured for the remainder of the present study.

At the completion of this investigation, the teacher regarded Dick as the BMC pupil who was most prepared to reenter a regular classroom setting. Dick was already integrated into the regular grade three classroom for several subjects and he expressed a desire to join that class on a full-time basis.

Daniel

An examination of Figure 7 reveals that Daniel exhibited a large number of problem behaviors during the baseline, intervention and followup phases of the study, relative to his BMC peers. The BMC teacher confirmed that Daniel tended to exhibit the same inappropriate behaviors following the intervention phase as before, but they were much less severe. The exceedingly hostile, aggressive behavior that characterized Daniel for the past four years was still very apparent following the treatment period. However, the direction of this dysfunctional behavior shifted dramatically away from his classroom peers toward his own school books and materials and those of his classmates. For example, there were several classroom incidents that took place during October and November in which Daniel became enraged and violently attacked his classmates. On one occasion, he screamed at Dick and chased him with a pair of the teacher's scissors; in an unrelated incident, he stabbed Corey in the shoulder with a pencil. In contrast, Daniel's aggressive behavior during the intervention and followup phases was considerably less threatening. Typically, he responded to the taunts of his classmates by either tearing up their artwork, breaking their crayons or verbally assaulting them. The BMC teacher regarded this as a significant improvement in Daniel's behavior.

Academically, Daniel steadily improved both the quality and quantity of the work he produced from the end of the baseline period onward. Although his achievement level remained far below that of his age peers, Daniel responded favorably to the positive attention he gained for his academic efforts. The teacher suggested that Daniel did not have as much of a defeatist attitude toward his school work. This was evidenced by his willingness to attempt most assignments and to sustain his attention on academic tasks for longer periods of time. The BMC teacher suggested that Daniel may have taken more interest in his schoolwork as a means of gaining positive teacher attention. However, even the mildest form of pressure to complete entire assignments or to achieve a prescribed level of proficiency was still very stressful to Daniel during the intervention and followup phases. Consistently, he responded to this stress by ripping his assignments to shreds, eating test papers, defiantly walking out of the classroom or using a variety of other techniques to disrupt the classroom (screaming, arguing, scribbling on other's work). Overall, the BMC teacher concluded that Daniel lacked both the basic academic skills and confidence required to succeed in a regular classroom setting. At the conclusion of the followup phase, Daniel was still only integrated with his grade two peers for art class.

From a socio-emotional perspective, the BMC teacher reported that Daniel was less secretive and more willing to share details about his home life and his feelings during the latter stages of the investigation. This new willingness to trust both the teacher and the aide was viewed as a significant positive change in Daniel's level of social competence. Similarly, he seemed to be more concerned about his physical appearance. During the first five months of the school year, Daniel did not seem to be aware of his dirty, unkempt appearance and his poor personal hygiene. After his teacher gave him a comb for a Christmas present, Daniel showed more interest in self-grooming and in his classmates perceptions of his appearance.

Overall, the level of problem behaviors that Daniel exhibited across the three phases of the present study remained very high. Although behavioral improvements are apparent in Figure 11, Daniel's level of problem behavior at followup suggests that additional intensive interventions may be required to reduce his current level of dysfunctional behavior. This notion will be addressed in greater detail later in this chapter.

Mick

Both Table V and Figure 7 suggest that Mick exhibited a great number of problem behaviors during baseline, relative to his BMC peers. However, the teacher noted that many of his "typical" classroom behaviors ("talking to others", "not paying attention", "talking back") were not of a severe nature, either in intensity or

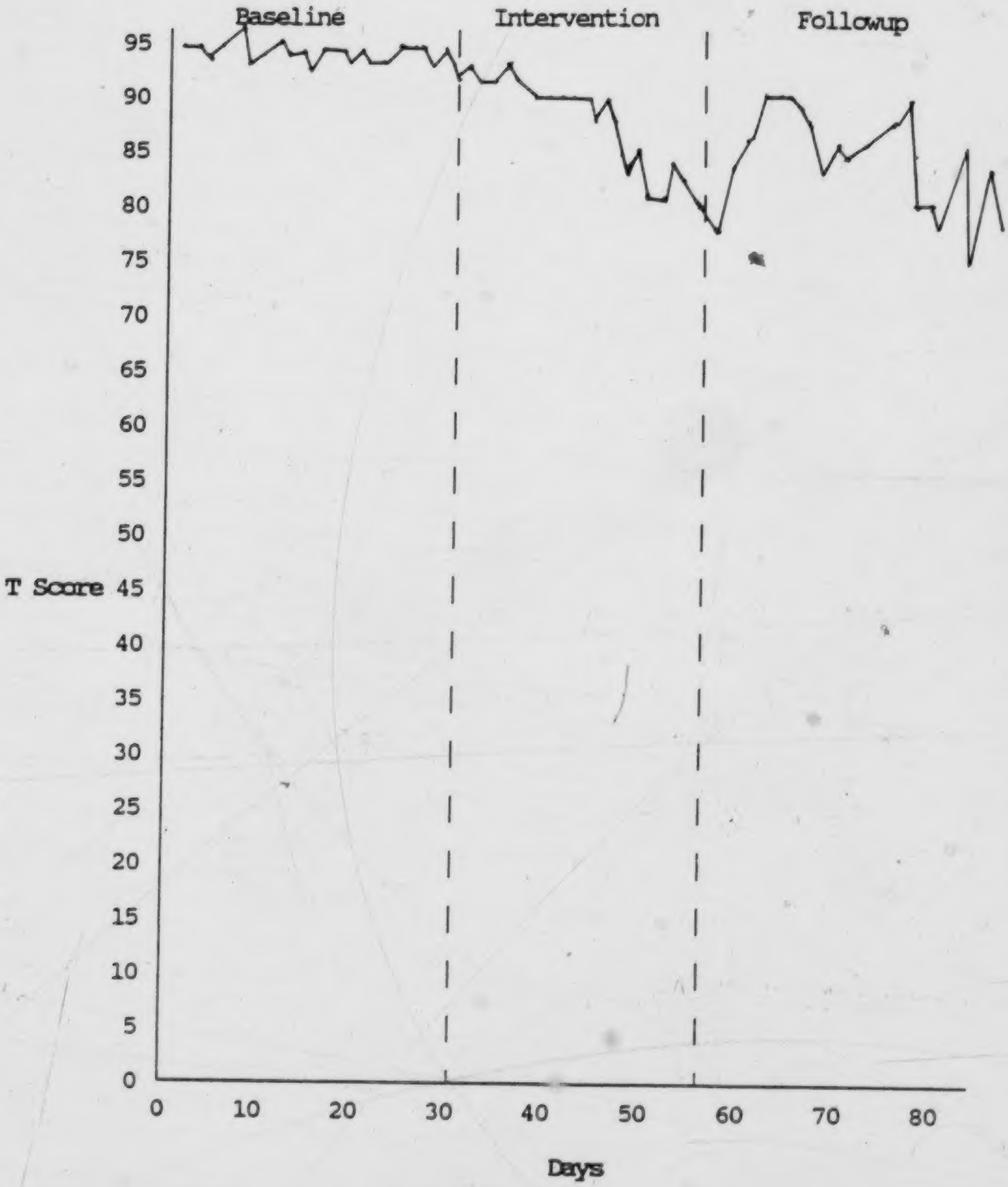


Figure 11
Subject: Daniel
Child Behavior Checklist - Direct Observation Form
Total Problem T Scores
At Baseline, Intervention and Followup

duration. During the baseline interview, the BMC teacher described Mick as being "very rude and self-centered" and "unusually loud" in his deliberate attempts to disrupt the class. While these behaviors did not represent a physical threat to the teacher, they did make it very difficult for her to maintain a sense of classroom decorum.

Conversely, Mick was often cruel and mean to other children on the playground. He regularly bullied younger children in an attempt to exert his will and his physical power over them. As evidenced by Figure 7, the intervention appeared to have a very dramatic effect on Mick's behavior. The number of problem behaviors that Mick exhibited at baseline (179) dropped down to 67 at the end of the intervention phase. This behavior change remained relatively stable during the followup phase. The accompanying change in the level of Mick's behavior, as measured by the CBCL: DOF, is clearly depicted in Figure 12.

From a socio-emotional standpoint, the BMC teacher noted a distinct change in Mick's mood and affect following the intervention phase. His sullen, irritable demeanour at baseline had apparently evolved into a happier, more agreeable disposition. Mick reportedly was better able to accept the fact that he couldn't always have his way with either his teacher or his peers. Following the incident in which Corey attacked the BMC teacher, Mick adopted the role of his teacher's protector. At that point, his teacher took a great deal of time to explain to Mick that physically assaulting other children was not the course of action that she preferred him to take to gain their attention. Through the peer confrontation procedure, more appropriate

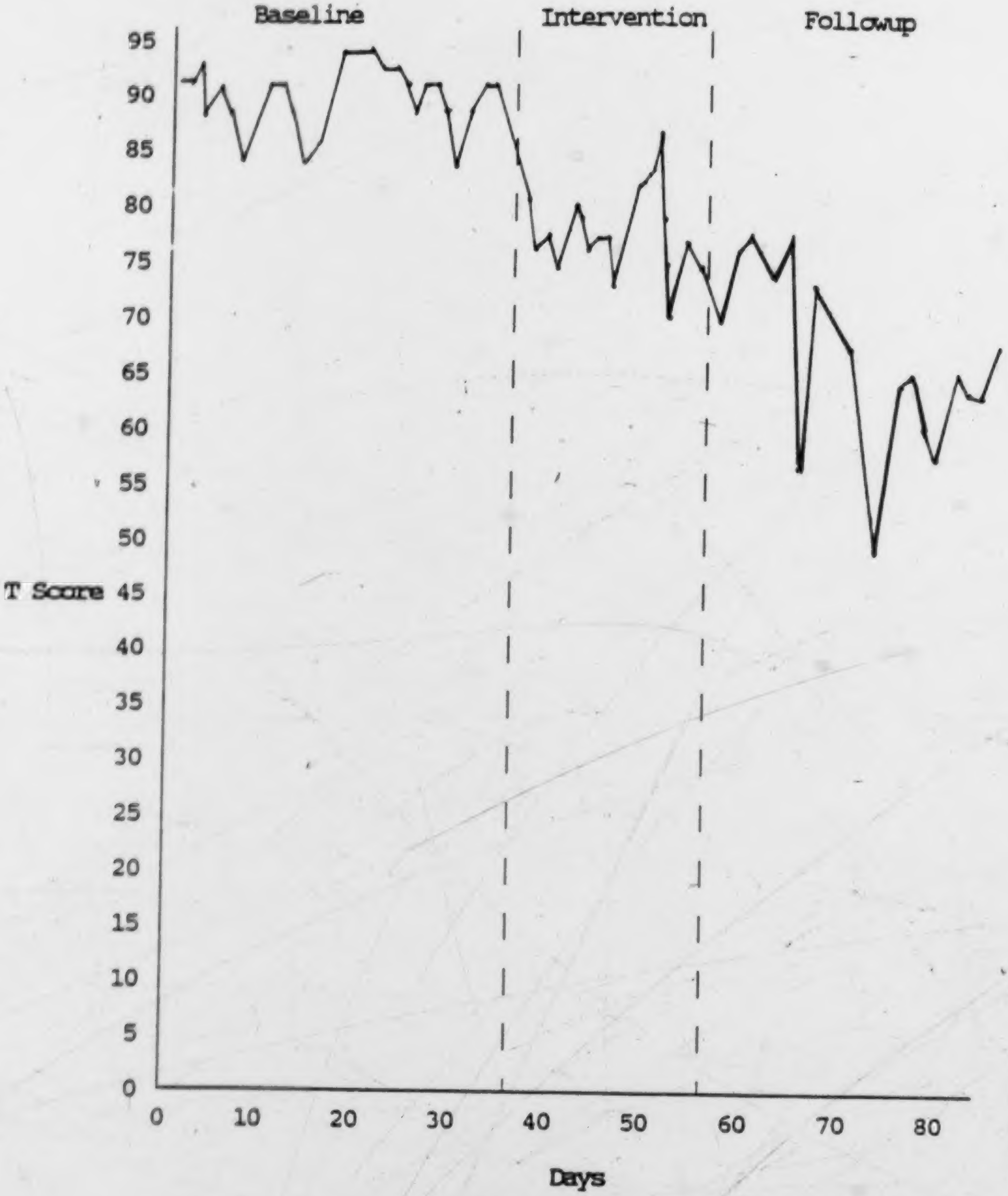


Figure 12
Subject: Mick
Child Behavior Checklist - Direct Observation Form
Total Problem T Scores
At Baseline, Intervention and Followup

behavioral alternatives were suggested to Mick, which he accepted without major arguments. For instance, Mick began to successfully use his sense of humour to help gain acceptance with his peers. Further, he significantly reduced the number of times that he disrupted his classroom peers during teacher-directed lessons and individual seatwork. With the direction of the teacher, they recognized this change in Mick's behavior by giving him a great deal of positive attention.

At the conclusion of the experimental period, Mick was integrated into two regular grade four classes. Although he experienced both social and academic success in these classes, he often stated that he missed his teacher. The BMC teacher planned to set aside a "special" time for Mick each day, while increasing his integration time to the greatest extent possible.

Corey

In marked contrast to his BMC classmates, Corey rarely exhibited violent or openly defiant behavior during the baseline phase. However, the BMC teacher noted that he was very adept at quietly manipulating his peers to misbehave. Specifically, Corey instigated major disruptions at recess, during teacher-directed lessons and in the lunchroom on a daily basis. When confronted by either the teacher or classroom aide, he complained, argued and insisted that he was merely a "victim" of the actions of others. Whenever he had an opportunity to speak to an adult alone, Corey whined and "tattled" on his BMC peers. Conversely, when he was with his peers he threatened to have older children "beat them up", if they did not do his bidding.

When the peer confrontation approach was initiated during the intervention phase, most of Corey's classmates began to take him to task over his reluctance to take any responsibility for the disruptions that he instigated. As the BMC teacher became aware of Corey's involvement in these incidents, his behavior began to deteriorate. At one point during the intervention period, Corey physically attacked the teacher and repeatedly punched her in the stomach. The principal was immediately called to the classroom, which eventually led to Mrs. M. being summoned to the school to discuss the incident. She listened carefully to the teacher's description of the events that took place and provided support for both the teacher and the school.

The next day Corey returned to school to find that his classmates were still very upset that he had hurt their teacher. For the next several days, they openly confronted and admonished him every time he tried to manipulate them to misbehave. As a result, he lost his role as the negative leader of the class group for the remainder of the experimental period.

The BMC teacher reported that this incident appeared to be a major turning point in Corey's behavioral pattern. He appeared to be very embarrassed by his actions and went out of his way to please his teacher for the next several weeks. At one point during followup, he again became very frustrated and again moved to attack his teacher. However, this attack was halted when the rest of his class quickly stepped in to defend their teacher. The teacher elected to handle this situation within the classroom, without calling either the principal or Corey's mother. Surprisingly, Mrs. M. called the next day to apologize to the teacher after Corey had detailed the incident to her the night before. This was viewed as a very significant development by the teacher, in that Corey showed genuine remorse for his actions.

Socially, Corey sensed his loss of status among his classmates. As a result, he began to spend more and more time cultivating friendships among the children in the regular grade three class. His success in this regard was positively acknowledged by his BMC peers, which seemed to return him to his previous level of status among them. As illustrated in Figure 13, Corey's behavior continued to show improvement during the latter part of the followup phase. During the final interview with the researcher, the BMC teacher suggested that these positive behavioral changes, coupled with his academic proficiency during the intervention and followup phases, should enable him to be fully integrated within a short period of time.

Hypothesis 2

Following the intervention program there will be a significant decrease in the number of problem behaviors exhibited by the subjects at home, as measured by the CBCL - Parent Form (CBCL: PF) and Child Home Checklist (CHC). This hypothesis was confirmed for the CBCL and fully corroborated by the results of the CHC.

Quantitative Results And Analysis Of Child Behavior Checklist - Parent Form (CBCL: PF) Data

As with the CBCL: TRF, a repeated measures analysis of variance was performed on parent-rated CBCL: PF data. This procedure was

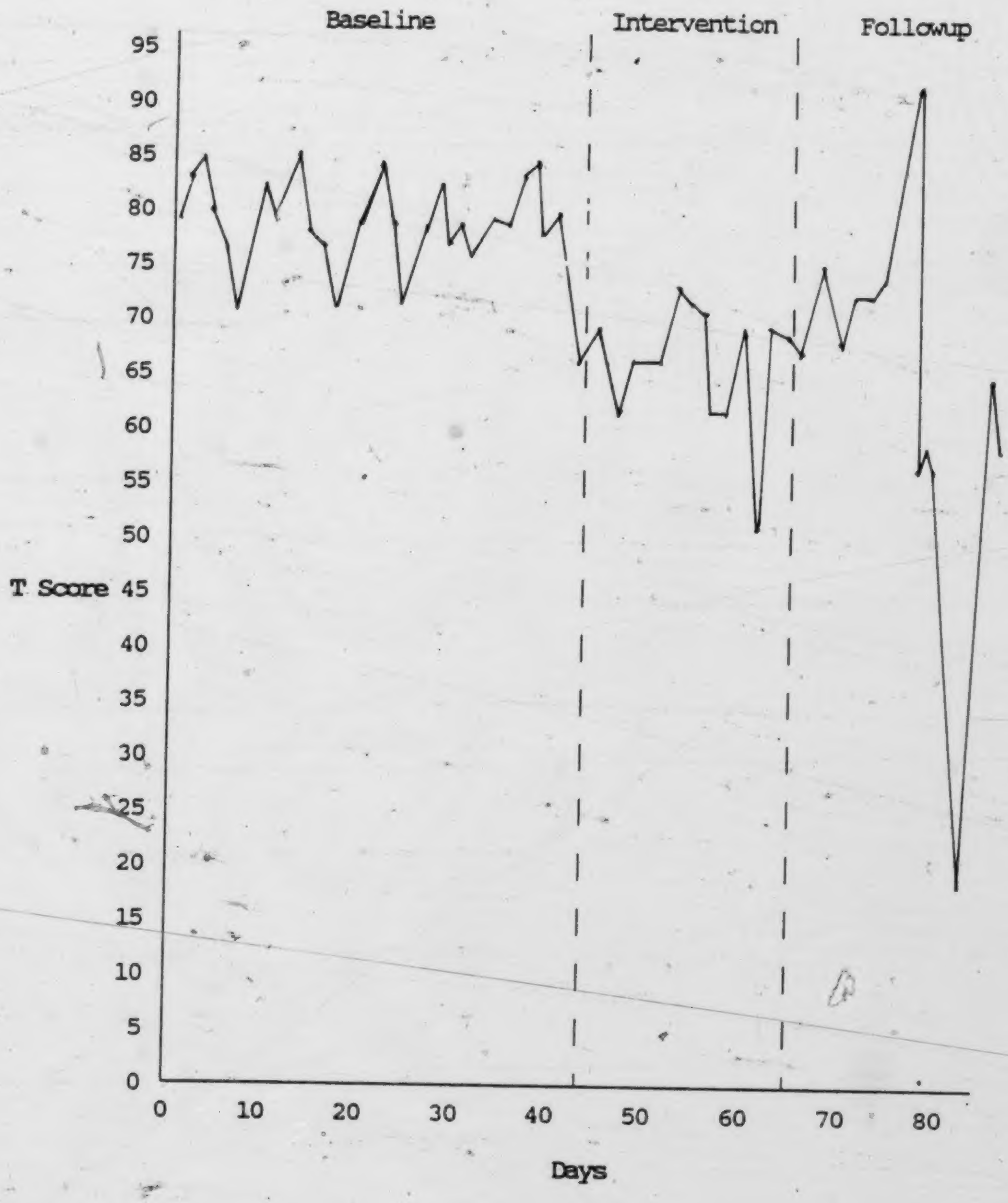


Figure 13
Subject: Corey
Child Behavior Checklist - Direct Observation Form
Total Problem T Scores
At Baseline, Intervention and Followup

employed since there were not a sufficient number of observations to facilitate the use of a time series analysis. The results of the repeated measures analysis indicated that there was a significant reduction in problem behavior across the three phases (F = 19.20; DF = 2, 10; p < .001). Further analysis, using Scheffé procedures, indicated that there were significant differences between baseline and intervention, intervention and followup and baseline and followup, as illustrated in Table VI.

Qualitative Results And Analysis Of Child Home Checklist (CHC) Data

Results of the ecological interviews with the parents/guardians, using the CHC, are shown graphically in Figure 14. Like the baseline and intervention phase scores, the followup results describe considerable between-subject variance in terms of the number of problem behaviors exhibited at home by each subject. For instance, Daniel's grandfather reported 36 intervention phase problem behaviors, while Bill's guardians described only 14. Similar trends were also evident in the baseline and followup results. From a group perspective, Figure 15 does suggest an overall decline in the number of home-related problem behaviors reported by parents/guardians.

Among individual subjects, a decline in baseline/intervention problem behaviors was noted by each parent/guardian. Table VII also suggests that treatment effects were stable during the followup phase. A more complete examination of the home-based behavioral changes of each of the target subjects follows.

TABLE VI
RESULTS OF SCHEFFE TESTS FOR DATA OBTAINED FROM THE CHILD BEHAVIOR CHECKLIST - PARENT FORM

Phase	Required Difference	Observed Difference
Baseline To Intervention	3.80	8.00 *
Intervention To Followup	3.80	2.33
Baseline To Followup	3.80	5.67 *

*significant at the $p < .05$ level

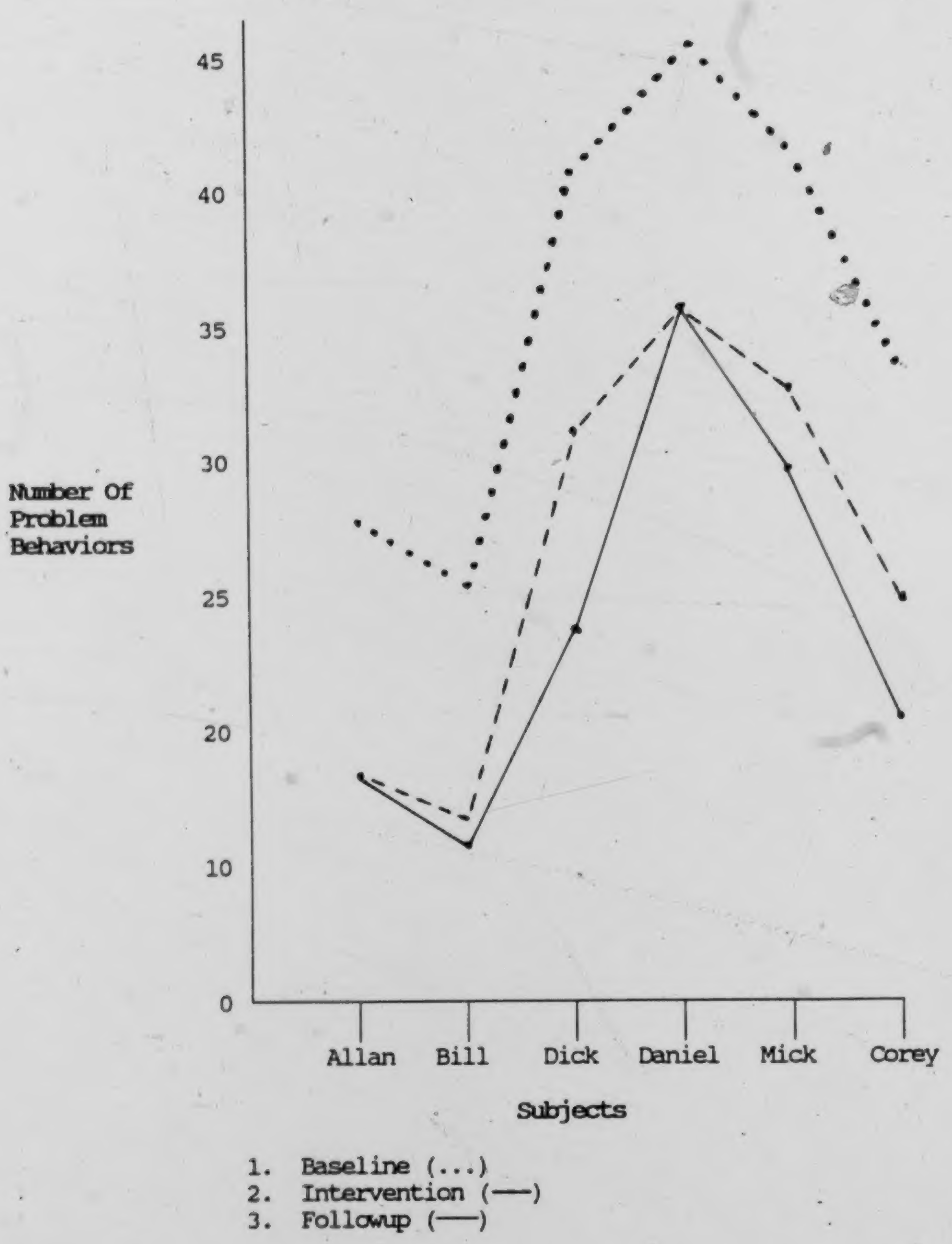


Figure 14
Number Of Problem Behaviors Identified At
Baseline, Intervention And Followup
On The
Child Home Checklist (CHC)

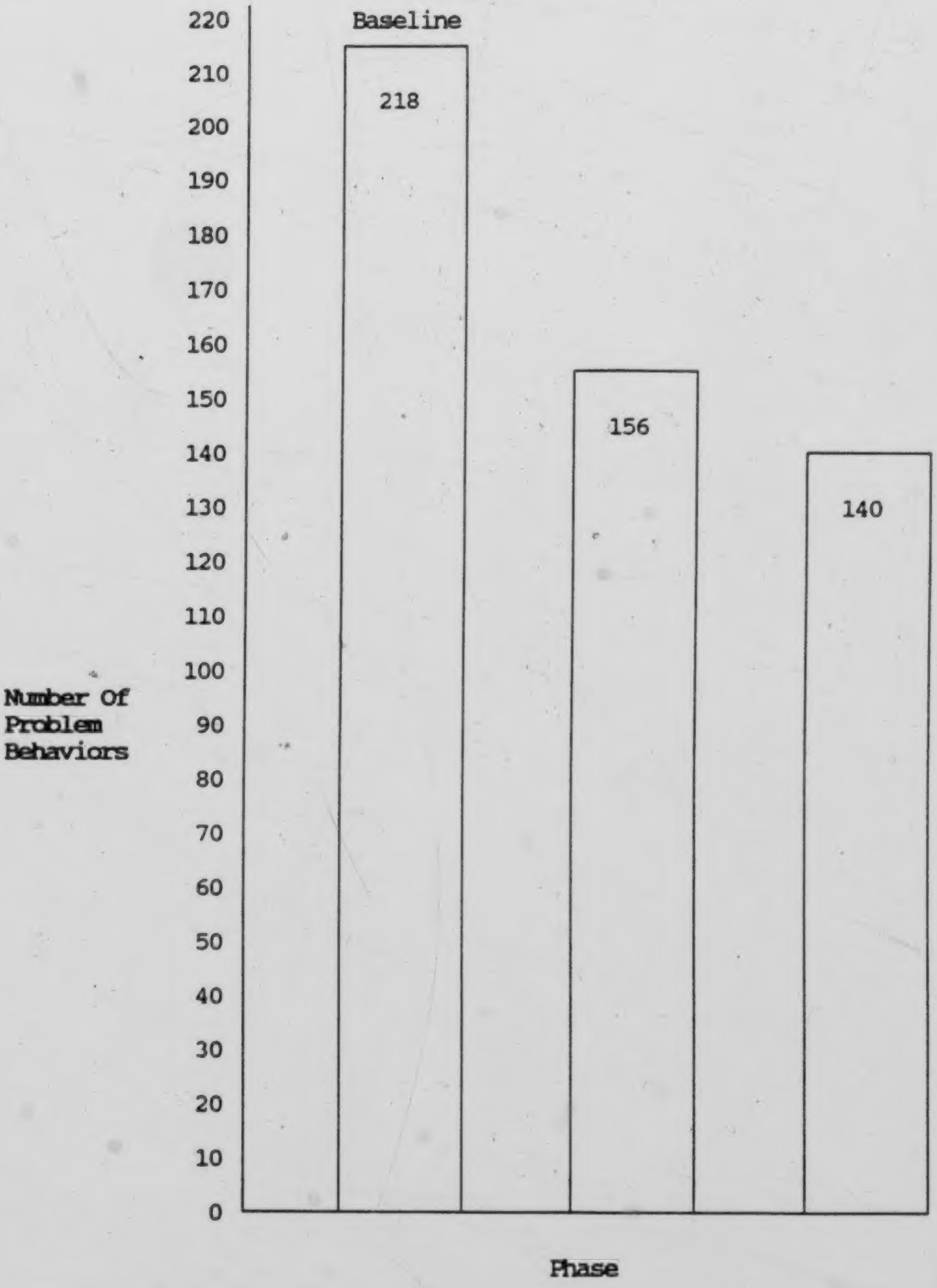


Figure 15
Total Number Of Problem Behaviors Identified At
Baseline, Intervention And Followup
On The
Child Home Checklist (CHC)

TABLE VII

NUMBER OF PARENT-RATED PROBLEM BEHAVIORS ON THE CHILD HOME CHECKLIST (CHC)

Subject	Baseline	Intervention	Followup
Allan	28	17	17
Bill	25	14	12
Dick	42	31	24
Daniel	45	36	36
Mick	44	33	30
Corey	34	25	21
TOTAL	218	156	140

Allan

During her first interview with the researcher, Mrs. H. stated that she was "very frustrated" by Allan's behavior, both at home and in the community. Her frustrations stemmed from two very distinct aspects of her son's behavior - his inability to concentrate and his extreme noncompliance. Interestingly, Mrs. H. regarded Allan's behavioral difficulties as being the result of him having "poor" teachers in earlier grades. She admitted that there were problems prior to Allan entering school, but she stressed that they had worsened during the past four years. During the baseline session, Mrs. H. expressed hope that the BMC program would "cure" her son.

Mrs. H. described Allan as being "restless", "unable to sit still", "impulsive" and "often acting without thinking", which tended to support the psychiatric diagnosis of Attention Deficit Disorder. This description was also substantiated by data obtained at the school level. Mrs. H. intimated that she had chosen not to give Allan the medication prescribed by the psychiatrist. In an attempt to rationalize her decision, she said that there was too much danger that her son could "get hooked on it (Cylert)". Mrs. H. also rejected an opportunity to learn new behavioral strategies to improve her son's attention span. At baseline, Allan's mother also depicted him as being "stubborn, sullen and irritable", "constantly whining" and "very disobedient".

During the second interview, Mrs. H. reported that Allan was much more obedient at home, but still had great difficulties concentrating on household tasks, such as making his bed. This reduction in problem behaviors is evident in Figure 14. In addition, she stated that she felt very relieved after attending the first parent-support group meeting. She had anticipated that it would be a very negative session, yet was pleasantly surprised when it had focused on the strengths of each of the BMC pupils and their parents.

While Mrs. H. said that she supported all of the intervention efforts made by the teacher at school, she also was quite resistent to some of the recommendations made by school staff. In particular, she maintained that family tensions had little or no effect on Allan's behavior and further stated that she could see "no reason" to seek family counselling. Similarly, she anticipated that the school would teach Allan "how to concentrate better", making further consideration of the use of medication unnecessary.

During the final interview with the researcher, Mrs. H. suggested that Allan's greatest behavioral improvements were reductions in swearing, disobedience, destroying things belonging to his older sister and arguing at bedtime. Further, she noted that Allan's self-esteem and self-grooming had improved considerably during the experimental period. Mrs. H. expressed disappointment that the BMC program had not yet "cured his hyperactivity", but noted that some of the techniques that she learned at the parent-support group meetings were helpful.

Bill

Unlike the other children in the BMC program, Bill did not live with any of his family during the experimental period. Despite this fact, the staff at his group home provided him with a great deal of stability and consistency. From baseline through to followup, they were also very supportive of both the BMC program and the present investigation. In regards to the data gathered from the CHC and CCC, the same child care worker that was assigned to Bill upon his arrival in the home participated in all three interviews with the researcher.

During the first interview with the investigator, the child care worker described several major areas of concern about Bill's behavior:

- arguing
- disobedience
- easily jealous
- complaints that nobody loves him
- impulsive, acts without thinking
- very fearful and anxious
- severe temper tantrums
- inappropriate sexual comments
- masturbation
- showing off continuously
- hording food
- sullen and irritable
- obscene language
- problems sleeping
- sad and depressed
- unusually loud
- frequent vandalism
- bedwetting
- constant worrying
- whining

The worker indicated that the group home staff were very concerned about the frequency, intensity and duration of these problem behaviors. It was reported that Bill had been seeing a psychologist on a weekly basis since June, 1989. However, his behavior had not improved as rapidly as had initially been anticipated. Data gathered during the initial CHC interview suggested that Bill's problem behaviors were evenly distributed across different times of the day and involved different home-based activities.

Following the intervention period, the intensity, duration and frequency of all of the above-mentioned problem behaviors declined.

The reduction in the frequency of inappropriate behaviors is depicted in Figure 14. While the level of Bill's problem behavior remained high relative to other children his age, definite improvements were noted by the group home staff. They indicated that he looked forward to going to school everyday and often told staff how much he liked his teacher. He was very proud of the fact that she had eaten dinner twice at the group home during the treatment period. Bill correctly interpreted her actions as a sign that she cared a great deal about him. During one visit, in particular, he got mixed up and referred to the BMC teacher as "mom". The positive communication between the school and the home was also viewed by the child care worker as a source of tremendous encouragement for Bill.

The major ongoing concern expressed by the child care worker about Bill's behavior was his deep anxiety over his future. Specifically, he was very worried about whether or not he would ever get to live with a "real family" again. Efforts were being undertaken by Alberta Family and Social Services to find an adoptive family for Bill, but with no immediate success.

This issue continued to have a great impact on Bill's behavior throughout the followup period. Staff in the group home concurred with the BMC teacher's observation that his behavior had reached a plateau. The child care worker hypothesized that there was a linear relationship between the time that went by without an adoptive family being found for Bill and his level of anxiety. At the conclusion of the present study, this remained a key factor in Bill's behavioral progress both at home and in the community.

Dick

At baseline, Mrs. K. disclosed that many of Dick's problem behaviors reminded her of Mr. K., her third husband. For instance, she described how they both often "get an idea in their heads and refuse to accept any other point of view". Similarly, she observed that they both become physically abusive if they didn't "get their way". Mrs. K. suggested that she did not have a problem dealing with her husband because she usually just gave in to his wishes. However, she described how stressful it was for her when she was forced to take sides between her son and her husband. In most cases, Mrs. K. indicated that she would side with her husband. Typically, Dick responded to these situations by either having a temper tantrum or running away, according to his mother. Mr. K. usually dealt with Dick by giving him a "licking" after one of these incidents occurred.

As shown in Figure 14, Mrs. K. noted a reduction in Dick's problem behaviors from baseline (42) to intervention (31). She noted a definite improvement in Dick's behavior when his stepfather was absent. Mrs. K. noted that her son ran away much less than he used to and seemed to have fewer temper tantrums. She also described how much easier he was to put to bed in the evening. This was a major area of concern expressed by Mrs. K. during the initial interview with the researcher.

During the second interview, however, Mrs. K. continued to adopt a "child deficit" interpretation of her son's behavior. She regarded Dick's inappropriate behavior as "his problem" rather than as a reaction to various family stressors. Mrs. K. was particularly resistent to the school counsellor's suggestion that family counselling be considered.

During the followup data gathering session, Mrs. K. reported that Dick's behavior had again improved at home. While she was very pleased with his positive behavioral changes both at home and at school, her husband was more skeptical. Mrs. K. stated that her husband felt that the BMC teacher "spent too much time being positive with (Dick) and should just give him the strap when he acts up".

Daniel

Perhaps the most significant trend during the course of the three ecological interviews with Daniel's grandfather was the refusal of his spouse to participate in any activity relevant to her grandson's school program. As a result, all of the data gathered about Daniel's home and community behavior was obtained from his grandfather. During the first interview, Mr. H. was very guarded about the whereabouts of his daughter, Daniel's mother. He did speak at length about his concerns about his grandson, however. Mr. H. described Daniel as being a "sad boy, who is always in trouble with someone". His major concerns about Daniel's behavior centered around the boy's temper tantrums, destructiveness, poor peer relations and his foul language. Mr. H. said that he found these behaviors difficult to cope with, but added that his wife had "no patience left for Danny".

During the latter part the intervention period, Daniel was moved to his mother's apartment in Hinton, at his grandmother's insistence. Mr. H. stated that his wife had "had enough" and did not want him to live with them any longer. He described how the couple's relationship had deteriorated rapidly over the past few months and that this move was "(their) only choice to save (their) marriage". Unfortunately, Daniel's mother only kept him for a day and a half before she sent him by bus to his natural father's house in Edmonton. Mr. H. said that when his wife found out about this a week later, she immediately picked her grandson up and took him back to her house. Apparently, she was concerned that Daniel would lose his full native treaty status if he lived with his father, a Caucasian. By coincidence, the BMC teacher reported that Daniel's behavior improved remarkably during the time he was with his father.

Mr. H., who attended all of the parent-support group meetings at the school during the intervention period, indicated that Daniel's behavior at home improved during the treatment period. Specifically, he reportedly argued less with his grandmother, was easier to get up in the morning and whined less. Daniel's overactivity remained a major concern, but neither Mr. or Mrs. H. wanted to reconsider medication as an alternative.

During the followup interview, Mr. H. indicated that Daniel's problem behavior was "about the same" as it had been during the intervention phase. The graphic representation of Daniel's followup behavior depicted in Figure 14 supports this observation. While the H.'s were generally pleased with Daniel's progress in the BMC program, Mr. H. stated that he had hoped that his grandson would have done even better. He also stated that it was unlikely that either he or his wife would participate in either a parenting program or family counselling sessions. Mr. H. was also unsure how long Daniel would remain living at their residence.

Mick

Mrs. C. was quite open about Mick's inappropriate behavior during the initial interview with the researcher. She indicated that his rude behavior, in particular, often embarrassed her when she had company at her home. Similarly, Mrs. C. was very concerned about the physically aggressive behavior Mick exhibited around his older sister and younger brother. In fact, she stated that she was very frightened that Mick "might really hurt them someday". Apparently, during the summer her husband told Mick to "make sure that the other kids behaved". However, in carrying out his father's wishes, Mick often became quite physical with his siblings, according to Mrs. C. This latter situation clearly was her major concern about her son's behavior during baseline.

Following the intervention period, Mrs. C. described a moderate decline in the number of problem behaviors that Mick exhibited at home (44 vs. 33). Specifically, Mrs. C. reported that he fought and argued less with his sister and brother. Further, she stated that Mick did not "act silly" in front of company as often as he had during the baseline period. Mrs. C. explained that another woman and her two children had moved in with the family just before Christmas. Apparently, Mick was very excited about having an infant in the house and carefully heeded his mother's warnings not to hurt the baby. She went on to describe how he appeared to treat the other children more gently as well.

Mrs. C. emphasized how valuable the parent-support meetings were to her. She indicated that she really enjoyed the positive, nonthreatening format used by the BMC teacher. At followup, Mrs. C.

reported another modest reduction in the number of problem behaviors that Mick exhibited at home (33 vs. 30). An unexpected consequence of Mick's improved behavior was that his father was considerably more willing to take him out on weekends for visits, which pleased Mick immensely.

Corey

Throughout the course of the present study, Mrs. A. was very supportive of the efforts of the BMC teacher and the classroom aide. She also appeared to have more confidence in her son's capacity to improve his behavior than many of the other parents interviewed during this investigation felt in their sons. During the first interview, Mrs. A. suggested that Corey had to learn to be more patient. She felt that he was "in too much of a hurry when he does his chores and his school work." Mrs. A. further described Corey as being "nervous and high strung", "cruel and disobedient" and "not well liked by other children". His propensity to lie and cheat were also mentioned as being of great concern to her.

A major portion of the second interview with Mrs. A. focused on the incident in which Corey hit the BMC teacher. She described in great detail how remorseful and embarrassed he was following this episode. Apparently, Corey was very concerned that his teacher would "never like (him) again". Mrs. A. was convinced that her son had "learned a lesson" from this incident and that it would not likely occur again.

In general, Mrs. A. reported that Corey lied and cheated less following the treatment period and seemed less nervous and tense around home. She also stated that his bedwetting had ceased and that he had fewer nightmares and bad dreams. In addition, Mrs. A. reported that Corey had not stolen anything from her purse since the beginning of the intervention phase.

During her final interview with the researcher, Mrs. A. reported a modest reduction in problem behaviors between the intervention and followup phases of the present study (25 vs. 21). Although she was "shocked" that a second assaultive incident involving Corey occurred at the school, Mrs. A. was pleased that her son told her about it on his own. She also noted that Corey seemed to complain less at home, especially about doing his chores and going to bed.

Hypothesis 3

Following the intervention program, there will be a decrease in the number of problem behaviors exhibited by the subjects in the community, as measured by the Child Community Checklist (CCC). Community was operationally defined for this study as the child's own yard, a neighbor's yard or home, stores, church, community recreation facilities and the family car (Wahler and Cormier, 1970, p. 282). This hypothesis was confirmed.

Qualitative Results And Analysis Of Child Community Checklist (CCC) Data

Consistent with the ecological tenets discussed earlier in this investigation, it appeared that the classroom intervention used also had a discernible effect on the problem behavior exhibited by the subjects in the community. As evidenced by both Table VIII and Figure

TABLE VIII

NUMBER OF PARENT-RATED
PROBLEM BEHAVIORS
ON THE
CHILD COMMUNITY CHECKLIST (CCC)

Subject	Baseline	Intervention	Followup
Allan	3	0	2
Bill	8	1	1
Dick	10	8	8
Daniel	16	12	10
Mick	18	12	9
Corey	2	4	2
TOTAL	55	37	32

16, the number of observed baseline problem behaviors was reduced from 55 to an intervention level of 37. A modest reduction was also noted at the end of the followup phase (32). A very brief examination of this data on an individual subject basis follows.

Allan

Mrs. H. expressed three concerns about Allan's community behavior during the baseline interview. First, she indicated that her son was often sent home from a neighbor's house because he "acted silly". This same inappropriate behavior was also listed as a concern in the family car. Finally, Mrs. H. stated that Allan frequently complained in stores when she refused to give into his demands to buy a number of "presents" for him.

While these behaviors appeared to be extinguished during the intervention period, Mrs. H. reported that Allan was once again acting silly at the neighbor's house and in the family car at followup.

Bill

The physically aggressive behavior that Bill exhibited in the community constituted the major concern that the child care worker expressed during the preliminary CCC interview. Apparently, group home staff were forced to supervise Bill constantly in order to protect his neighborhood friends from his unwarranted physical attacks.

A definite improvement in this area was noted during the second interview with the researcher. In fact, Bill was permitted to invite some of the neighborhood children to his birthday party, which

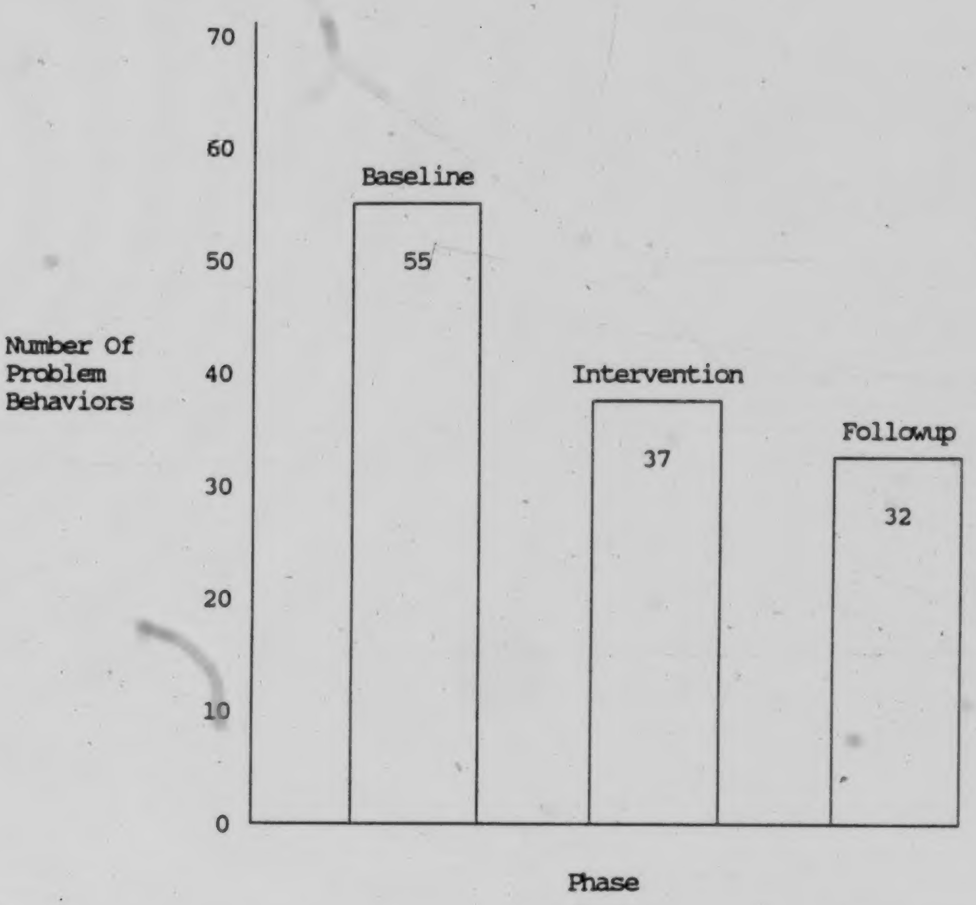


Figure 16
Total Number Of Problem Behaviors Identified At
Baseline, Intervention And Followup
On The
Child Community Checklist (CCC)

apparently presented no major problems. Figure 17 graphically illustrates this decline in problem behaviors.

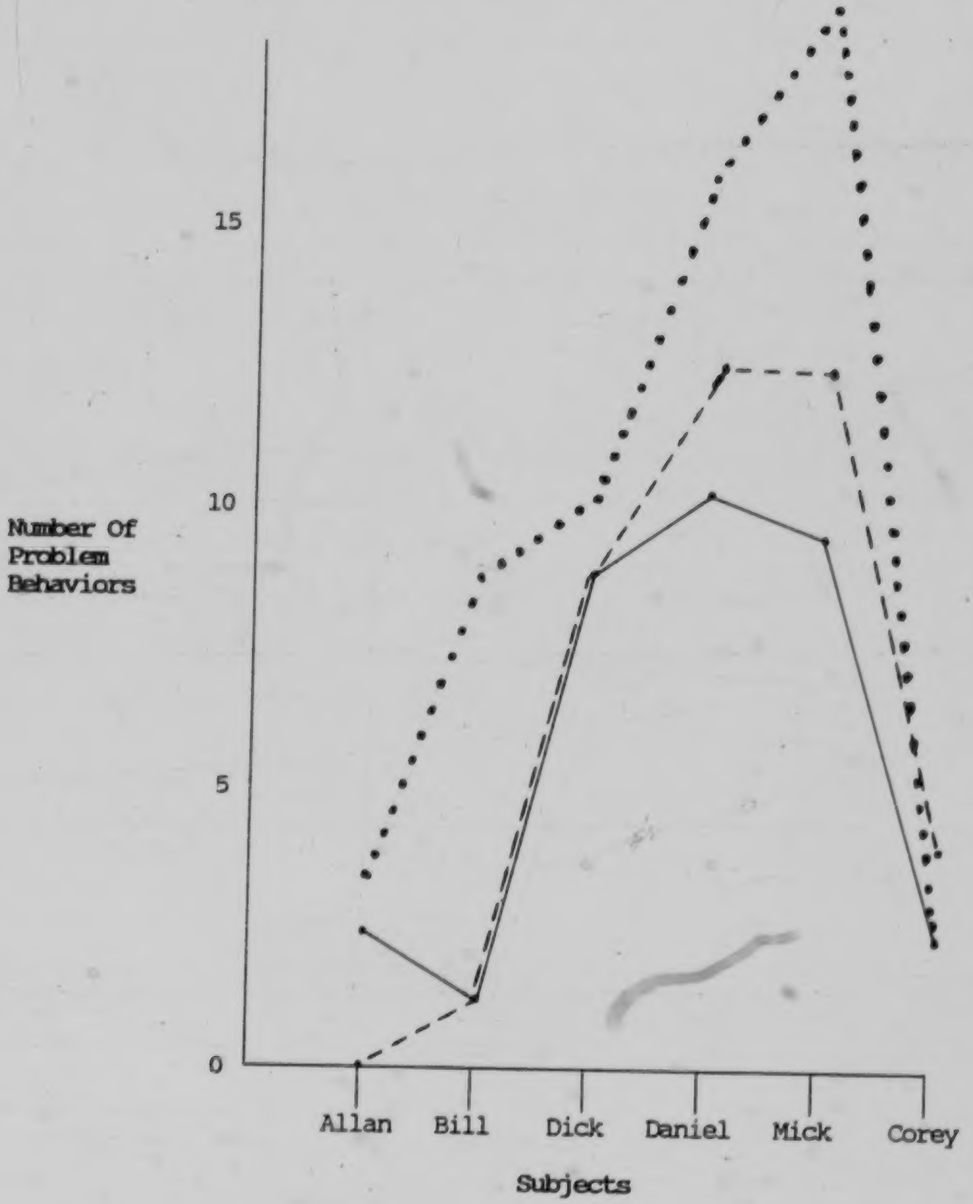
The group home staff continued to rely on the peer confrontation procedure to reduce Bill's community-based problem behavior during the followup phase. At the end of the experimental period, the child care worker reported that the reduction in the number of problem behaviors was maintained.

Dick

According to Mrs. K., the number of problem behaviors that Dick exhibited in the community was reduced from a baseline level of 10 to 8 during the treatment period. The single setting in which his behavior improved dramatically, in terms of intensity and duration, was in neighbors' yards and in their homes. Although Dick still argued a great deal with his neighborhood peers, he was able to show more self-control in these disagreements. Mrs. K. indicated that these situations rarely resulted in physical fights during the intervention and followup phases of the study. The stability of this behavior change from intervention through to the followup phase is shown in Figure 17.

Daniel

During the first interview with the researcher, Mr. H. indicated that Daniel "behaved just as bad in the neighborhood as he (did) at home". Specifically, Mr. H. listed "refusing to cooperate", "arguing", "stealing" and "not paying attention" as major areas of Daniel's problem behavior that concerned him.



1. Baseline (...)
2. Intervention (---)
3. Followup (——)

Figure 17
Number Of Problem Behaviors Identified At
Baseline, Intervention And Followup
On The
Child Community Checklist (CCC)

At the end of the intervention phase, Mr. H. suggested that Daniel argued less in stores and in the family car than before. This change resulted in a modest decline in the number of problem behaviors that were reported (16 vs. 12). Mr. H. credited the experimental strategies used at the school for his grandson's improved behavior. As evidenced by Table VIII, this reduction was maintained during the followup phase.

Mick

Prior to intervention, Mrs. C. described how Mick would purposefully poke, hit and spit on his older sister in public places much to her embarrassment. During the second and third interviews with the researcher, she noted that these inappropriate behaviors had lessened dramatically. This change in clearly reflected in Figure 17.

Mrs. C. confirmed that the improvement in Mick's community behavior made his father much more amenable to taking the boy on regular outings. From Mrs.'s perspective, this social reinforcement was viewed as a significant factor in maintaining Mick's positive community behavior during followup.

Corey

In contrast to his BMC peers, Corey reportedly increased the number of problem behaviors he exhibited in the community during the intervention phase. However, Mrs. A. suggested that the intensity of his whining actually decreased even though he tended to whine in a greater number of behavioral settings. Further, she noted that even though the frequency of his problem behavior increased during the treatment period, Corey seemed to be much happier.

At followup, Mrs. A. suggested that the increased positive contact that Corey had with the children from his regular classroom setting had a notable effect on his behavior in the community. Specifically, she reported that her son's improved capacity to cooperate with neighborhood children was related to a decline in the number of problem behaviors he exhibited in the community.

Exploratory Variables

Family - School Relationship Patterns

An examination of Table IX suggests that the family - school relationship patterns between three parents/guardians and the BMC program staff changed during the course of this investigation. Both Mick's mother and Daniel's grandfather had a more collaborative relationship with the BMC teacher and classroom aide following treatment than before. In Mrs. C.'s case, she appeared to be less threatened by contact from the school and more willing to work reciprocally with the teacher to improve Mick's behavior. Similarly, Mr. H. was less secretive and more involved in BMC program activities during the latter half of the experimental period than before. For instance, in addition to attending parent-support meetings on a regular basis, he accompanied the class on three field trips and helped work out some problems concerning Daniel's behavior with the cab driver responsible for transporting the boy to and from school. In contrast, the relationship that Dick's stepfather had with the school became visibly more competitive during the course of the investigation. Clearly, he attempted to extend his influence into the

TABLE IX

CHANGES IN FAMILY-SCHOOL RELATIONSHIP PATTERNS OBSERVED FROM BASELINE TO FOLLOWUP

Family Of:	Family-School Pattern At The Beginning Of Baseline Phase:	Family-School Pattern At The End Of Followup Phase:
Allan	ONE-WAY	ONE-WAY
Bill	COLLABORATIVE	COLLABORATIVE
Dick	ONE-WAY	ONE-WAY (Mother) COMPETITIVE (Father)
Daniel	ONE-WAY	ONE-WAY (Grandmother) COLLABORATIVE (Grandfather)
Mick	ONE-WAY	COLLABORATIVE
Corey	COLLABORATIVE	COLLABORATIVE

classroom on a consistent basis as the study progressed. During the final interview with the researcher, Mrs. K. indicated that her husband was "annoyed" by the positive approach to discipline practiced by the school staff and was anxious to "show those teachers how to make kids behave".

Among the other parent/guardians, both Mrs. A. and the staff at Bill's group home, maintained their collaborative relationship with the school during the study. In each case, there appeared to be a great deal of mutual respect between home and school partners. As a result, strong working alliances were formed to improve the behavior of the children.

The level of communication between the remaining parent/guardians and the school was distinctly directional. For instance, both Mrs. H. and Mrs. K. were quite closed to receiving and reciprocating the communication from the school. Both mothers were very resistent to the recommendations for family counselling made by the school counsellor. Likewise, Daniel's grandmother showed little or no inclination to become involved with the school during the course of this investigation.

In essence, it appeared that the family-school relationship pattern may have had some influence, together with other factors, on the behavioral progress made by each of the target subjects. This possibility will be discussed in greater detail in the next chapter.

Stressful Life Events

As illustrated in Table X, five of six BMC subjects experienced a considerable number of stressful life events during the twelve month

TABLE X

LIFE EVENT SCALE - CHILDREN SCORES FOR BMC SUBJECTS DURING AND PRIOR TO THE PRESENT INVESTIGATION

Subject	Time Period	
	February 1989 To February 1990	October 1989 To February 1990
Allan	125 *	95 *
Bill	180 *	100 *
Dick	100	75
Daniel	220 *	125 *
Mick	130 *	70
Corey	125 *	75

* exceeds the upper limit scores for 75% of the age 6 - 10 population

period between February 1989 and February 1990. The Life Event Scale - Children (LES) scores obtained by these pupils exceeded the upper limit of 75% of their age peers. In comparison, Dick's score was just slightly below the criterion level set by Coddington (1981).

Interestingly, the scores obtained by the target subjects during the experimental period appear to correlate highly with the followup CBCL: TRF and CBCL: DOF data collected. In essence, the three subjects with the highest LES scores obtained the highest total problem behavior T scores on these two CBCL forms. This may indicate that the level of stress experienced by the subjects may have had a bearing on their behavior.

Self-Perceptions Of Problem Behavior

During the course of the investigation, data was collected on the target subjects' perceptions of their own levels of problem behavior at home, at school and with their peers. The results of a repeated measures analysis of variance performed on student-rated BRP: Student Rating Scales (Home, School, Peer) data showed no significant differences from baseline through followup. This analysis indicated that there was no significant change in the subjects' perception of their own problem behavior across the three phases in any of the three BRP scales (Home: F = 0.28; School: F = 1.12; Peer: F = 0.83). Further analysis, using Scheffé procedures, indicated that there were no significant differences on any of the three scales between baseline and intervention, intervention and followup and baseline and followup.

Peer Relationships

As illustrated in Table XI and XII, many of the peer nominations made by the target subjects changed significantly during the present study. With the exception of Allan, all of the target subjects had a different group of pupils that they wanted to become friends with from baseline through followup. Consistent with information obtained in the CSC interviews with the teacher, Dick, Corey and Mick appeared to seek and value regular classroom peers as friends to a much greater extent than Allan and Daniel. The followup phase nominations made by Bill seemed to indicate that he also wished to engage both a regular classroom child and one most successful BMC subjects as friends. In marked contrast, the nominations made by Daniel seemed to underscore his social isolation and inability to form peer relationships.

Table XII indicates a polarity among the BMC subjects. The subjects with the fewest school-based problem behaviors, as shown by the results of the CSC, CBCL: TRF and CBCL: DOF, appeared to reject their less behaviorally-capable peers. For instance, Corey, Mick and Dick socially rejected either or both Allan and Daniel. Conversely, Allan and Daniel negatively nominated either one or two of the most behaviorally-proficient BMC subjects. Clearly, Bill appeared ambivalent in choice of peer nominations.

TABLE XI

RESULTS OF THE BRP SOCIOGRAM AT BASELINE, INTERVENTION AND FOLLOWUP

QUESTIONS: Which of the students in your class would you most like to:

- have as your friend?
- sit with at lunch?
- have in your class at school next year?

Subject	Baseline	Intervention	Followup
Allan	1. Bill 2. Dick	1. Bill 2. Daniel	1. Bill 2. Daniel
Bill	1. Allan 2. Dick 3. Daniel	1. Allan 2. Daniel	1. Donald* 2. Mick
Dick	1. Bill 2. Mick	1. Bill 2. Mick	1. Jerry* 2. Travis* 3. Robbie*
Daniel	"All the boys in my class"	"All the boys in my class"	1. Allan
Mick	1. Corey 2. Bill 3. Dick	1. Bill 2. Dick	1. Andrew* 2. Kristen* 3. John*
Corey	1. Mick 2. Dick 3. Bill	1. Bill 2. Dick	1. David* 2. Clint* 3. Tina*

* Children in regular classes that the target subjects were integrated into.

TABLE XII

RESULTS OF THE BRP SOCIOGRAM AT BASELINE, INTERVENTION AND FOLLOWUP

QUESTIONS: Which of the students in your class would you least like to:

- have as your friend?
- sit with at lunch?
- have in your class at school next year?

Subject	Baseline	Intervention	Followup
Allan	1. Daniel 2. Mick	1. Corey 2. Mick 3. Daniel	1. Corey 2. Mick
Bill	1. Mick 2. Corey	1. Mick 2. Corey	1. Corey 2. Daniel 3. Dick
Dick	1. Daniel	1. Daniel	1. Daniel 2. Allan
Daniel	"All the boys in my class"	1. Allan 2. Bill	1. Dick
Mick	1. Daniel 2. Allan	1. Daniel 2. Allan	1. Daniel 2. Allan
Corey	1. Allan	1. Allan	1. Allan 2. Bill

CHAPTER V

DISCUSSION AND IMPLICATIONS

Introduction

The main purpose of this investigation was to investigate whether a behavioral plan of instruction, based on a number of theoretically relevant intervention strategies, was effective in modifying the problem behavior of six behavior disordered children. It was hypothesized that there would be a significant quantitative and qualitative reduction in the inappropriate behavior of the subjects, over a defined experimental period. In addition, this investigation briefly examined four exploratory variables indirectly related to problem behavior: family-school relationship patterns, stressful life events, self-perceptions of problem behavior and peer relationships. This chapter discusses the major findings of the study, its limitations and its theoretical, research and practical implications.

Problem Behavior

The present study used an ecological assessment approach to gather test data from parents, the BMC teacher, the classroom setting and from the subjects themselves. The central notion of the three hypotheses of this investigation was that a classroom-based intervention would significantly reduce the number of problem behaviors exhibited by a group of elementary school-aged children at school, at home and in the community. This was confirmed for all three hypotheses. As expected, the intervention produced a significant change in the subjects' inappropriate behavior in each of the ecological settings examined. These findings were consistent with the research literature related to both the specific intervention strategies and to the ecological perspective, in general.

Peer Confrontation Intervention Strategies And Behavioral Change

Consistent with the findings of this investigation, Bellafiore and Salend (1983) reported a significant decrease in the inappropriate behavior of a single target subject and two nontargeted peers following the use of the peer confrontation intervention. These researchers directly attributed their findings to the use of this strategy and, in particular, to its potential for expanding the repertoire of positive behavioral alternatives of the participants in the study. In essence, Bellafiore and Salend concluded that the effectiveness of the peer confrontation procedure was enhanced by its ease of implementation, in that it provided the teacher and the pupils with a simple, immediate and positive system for dealing with problem behavior (p. 278).

These conclusions were strongly supported by the results of the CBCL: TRF and the ecological interview with BMC teacher in the present study. The teacher reported that both the pupils and the parent/guardians were very favorably disposed to the peer confrontation strategy. Apparently, the subjects enjoyed the challenge of assisting their peers to find positive alternatives to inappropriate behaviors.

Sandler, Arnold, Gable and Strain (1987) also investigated the application of the peer confrontation intervention within a special education classroom setting. These authors reported significant reductions in problem behavior among three upper elementary school pupils who served as the subjects of the study. Consistent with the results of the present investigation, Sandler et al (1987) observed some maintenance of treatment effects over time. In this regard, they suggested that the continuing presence of the target subjects' peers may have acted as a discriminative stimulus which facilitated more appropriate behavior even when the peer confrontation procedure was not in use (p. 109).

Overall, Sandler, Arnold, Gable and Strain concluded that the use of this intervention, under the supervision of a skilled special educator, may assist pupils to increase their awareness of the consequences of their own behavior. These researchers regarded this knowledge as being of utmost importance if educators are to succeed in shifting from adult to child-centered regulation of classroom behavior. Their conclusion underscored Sprinthall and Sprinthall's (1981) contention that successful behavioral programs must move students from a developmental stage in which social group pressure is used to reduce inappropriate behavior to a final level, where individual decision making and responsibility for actions are characteristic.

Ecological Variables

Results of the Child Behavior Checklist: Parent Form (CBCL: PF) and interview data gleaned from the Child Home and Community Checklists (CHC,CCC) strongly suggested that the effects of the intervention were generalized to other behavior settings, both at home and in the community. Overall, each of the parent/guardians reported that the subjects exhibited significantly fewer problem behaviors at the conclusion of the experimental period than before. This finding is consistent with those of Beck, Roblee and Johns (1982), who reported positive changes in the home and community behavior of eight behavior disordered subjects, following a classroom intervention. These researchers attributed the generalization of treatment effects across settings to the children's increased ability to generate positive behavioral alternatives. Beck, Roblee and Johns concluded that elementary schoolaged behavior disordered children can be taught to assume responsibility for the maintenance and control of their own behavior.

The findings of the present study are also supportive of those obtained by Moos and Fuhr (1982) following a single case study investigation concerned with the inappropriate behavior of an adolescent girl. Using ecological assessment techniques similar to those employed in the present investigation, these researchers were able to conceptualize environmental factors which were used to formulate relevant intervention strategies. They attributed the target subject's behavioral improvements in one ecological setting to the interventions made in another. In essence, both these findings and the present results provided empirical support for Swap, Prieto and Harth's (1982) position that classroom-based interventions can produce ecological changes in other behavior settings as well.

Secondly, the parallel use of the intervention strategies at home and in the community may have also been a factor in determining the ecological outcomes of the study. During the initial interview with the researcher, each of the parent/guardians expressed a willingness to acquire new strategies for disciplining their children, as their existing techniques were largely ineffective. As the intervention was applied in the classroom, parent/guardians questioned the BMC teacher and classroom aide regarding the use of the strategies, in order to reapply them in the home setting. Although not specifically investigated within the scope of this study, the possible use of the intervention strategies at home and in the community may have had a bearing on the present results.

A third ecological variable that may have influenced the present results was the quality of the home-school linkages observed during the course of this investigation. As a group and as individuals, the vast majority of the parent/guardians expressed very high positive regard for the BMC teacher and the classroom aide. In addition, they were very supportive of the intervention strategies used in the present investigation and towards the BMC program itself. For instance, at least one parent/guardian of each of the BMC pupils attended every monthly classroom meeting held during the experimental period. Consistent with this notion, Lewis (1988) determined that ecological support was essential in order to maintain the personal gains made by children during treatment. This researcher observed that the parents of successful children were in more frequent contact with the program than their unsuccessful counterparts. Further, the percentage of these contacts that were judged to be positive was also greater. Lewis concluded that change in the child's family and community support system were important factors influencing an ecological treatment program.

A final ecological variable that may have influenced the findings of this investigation was the positive, non-pathological focus of the intervention strategies. The four techniques employed in this study to improve the home-school linkages focused directly on providing parent/guardians with consistent, positive communication regarding their child's progress in the BMC program. In this regard, each child was seen, not as disturbed, but as reacting to the disjunction between his personal characteristics and the behavioral expectations of a given setting. Similarly, in each teacher-initiated contact with the home, parent-guardians were regarded, not as inadequate or pathological, but as temporarily unable to structure the setting so that the child could respond appropriately. In essence, the BMC teacher carefully deemphasized individual deficits in both the BMC pupils and their parent/guardians and focused on the individual strengths present in each individual, rather than weaknesses.

Each of the parent/guardians interviewed indicated that this approach was notably different from the communication that they had received from other schools in previous years, which tended to be very negative. As a consequence of receiving positive messages from the school, the parent/guardians observed that they tended to see their children in a more positive light. To some degree, this factor may have had a bearing on the present results.

Exploratory Variables

Family - School Relationship Patterns

Power and Bartholomew (1987) postulated that the general pattern and the specific form a family-school relationship assumes at a given time depends upon numerous ecological influences (p. 510).

Specifically, Okun (1984) suggested that four categories of factors strongly determine the pattern and form of the family-school interaction: (a) cultural patterns that shape family and school values; (b) developmental issues arising within the family and school, such as a change of schools or school programs; (c) non-developmental, intrasystemic crises, such as divorce and teacher stress; and (d) systemic crises caused by organizational variables, such as a father losing his job or a school closing. Moreover, Power and Bartholomew indicated that a change in any one or more of these factors can alter the pattern and tenor of the family-school relationship.

Unfortunately, a review of the literature related to family-school relationship patterns failed to elicit any other investigations with which the results of the present study could be compared. In consideration of the effects of the other three categories of factors identified by Okun (1984), it clearly would be overly ambitious to directly correlate the effects of the intervention program with changes in the family-school relationship pattern demonstrated by any of the parent/guardians. Therefore, the discussion of this particular exploratory variable will be restricted to trends observed during the course of this investigation.

The participation of the target subjects and their parent/guardians in both the present study and the BMC program in general appear to be representative of the second category described by Okun (1984). An analysis of family-school relationships observed within this study revealed a pattern change for three families. Clearly, Mick's mother and Daniel's grandfather had a more collaborative relationship with the school following the experimental period than before. This change in pattern was evidenced by an increase in the number of positive parent-initiated contacts with the school. Conversely, Dick's stepfather assumed a more competitive stance towards the BMC program during the course of the investigation. The BMC teacher reported an increase in the number of contacts initiated by Mr. K. across the three phases of the study. However, the intent of a high percentage of these contacts was to question the positive approach taken by school staff and to propose that a more constrictive approach to discipline be adopted. In fact, Mr. K. associated Dick's improved home and community behavior with his own disciplinary techniques rather than the intervention strategies used in the present study.

The BMC teacher observed that parent/guardians who had a collaborative relationship with the school were more likely to implement changes at home recommended by school staff. In contrast, the parent/guardians who maintained a one-way relationship with the school resisted any suggestions relating to family counselling or additional parenting programs. Given the relatively short duration of this study, it is possible, however, that the relationship with this latter group of parent/guardians may have become more collaborative over time.

Stressful Life Events

Results of an analysis of Life Event Scale data clearly indicated that five of the six target subjects experienced more environmental stressors than their age peers during the past twelve months. However, it would be both inaccurate and implausible to suggest that this factor alone accounted for the large number of pre-intervention problem behaviors they exhibited relative to other children. Similarly, it would be erroneous to attribute the behavioral improvements made by the target subjects during the present study solely to a reduction in the amount of stress they experienced during the experimental period.

As noted by Stiffman, Jung and Feldman (1986), the etiology of the behavior problems exhibited by these children is much too complex to be explained by any one variable (p. 204). Alternatively, these researchers proposed a multivariate model for childhood behavior problems that suggests that any shifts in behavior, in either a positive or negative direction, are the result of the complex interaction between an individual child's coping skills and various environmental stressors.

Therefore, with regard to the present investigation, the level of environmental stress experienced by the subjects must be given consideration as a moderator variable. While it is possible that the intervention may have increased the coping skills of the experimental subjects, a decrease in stressors may have also influenced their demonstrated reduction in problem behavior. Additional empirical support for this conclusion can be found in the work of Brenner (1984) and Garmezy, Masten and Tellegen (1984).

Self-Perceptions Of Problem Behavior

The results of an analysis of BRP Student Rating Scales data revealed no significant change in the subjects' self-perceptions of problem behavior. Given the paucity of published empirical investigations that have used this instrument to assess intervention effects, it was not possible to relate these findings to those of other researchers. In this regard, Broughton (1985, p.95) strongly emphasized that, "the BRP has not been demonstrated to be reactive to treatment effects and multiple measures should be employed in treatment evaluation." Given this caution, the present results may not be accurate estimates of the experimental subjects' self-perceptions of problem behavior.

In fact, informal interview data gathered from both the BMC teacher and the school counsellor was contrary to the BRP results. Both in the classroom and in counselling sessions, the BMC subjects were reported to have verbally associated positive school events, such as integration into a regular classroom and frequent use of their improvement books, with their demonstrated reduction in problem behaviors. Therefore, it is possible that the changes in the peer relationships of the BMC pupils were clinically validated by school staff, yet not statistically significant.

Peer Relationships

Results of the BRP Sociogram suggested that the BMC pupils who exhibited the fewest problem behaviors at followup also appeared to possess the most social competence. However, given the imprecision of the instruments currently used to measure the social competence construct, this hypothesis would be difficult to confirm.

From a different perspective, the peer nominations made by Dick, Corey and Mick clearly illustrated their preference to interact with regular classroom children at the end of the followup phase. The BMC teacher confirmed that these three subjects regularly sought out pupils from their integrated classes as playmates on the playground and in the lunchroom. In contrast, Allan, Daniel and Bill were observed to have considerably more difficulty forming peer relationships beyond those with their BMC classmates. These findings appear to lend additional empirical support for the position taken by Marmor and Pumpian-Mindlin (1950), illustrated in Figure 1.

Limitations Of The Investigation

Measurement Limitations

Each of the methods of measurement employed in this study (behavior rating scales, structured interviews and direct observation) has definable strengths and weaknesses. For instance, behavior rating scales utilize a multivariate statistical approach to identify clusters of behaviors which are highly intercorrelated and can therefore be hypothesized to represent a dimension of behavior. However, several investigators (Abramovitch, Konstantareas, & Sloman, 1980; Carlson and Lahey, 1983) have expressed some doubts that the scores obtained actually reflect reliable and valid changes in the children's behavior. Edelbrock (1983) described numerous technical problems and shortcomings involving the nature of the items, response scaling, time frame and standardization of several currently available instruments. However, he recommended that behavior rating scales can be valuable components of broader "multi-method" assessments involving direct observations and clinical interviews.

For the purposes of this study, it was anticipated that within a "multi-method" assessment procedure various dimensions of behavior change, including frequency, intensity, duration and celeration (Mace, 1984) would be detected. However, the fact that the intensity and duration of the behavior of the subjects in the community could not be objectively and quantitatively measured, collected and analyzed using the Child Community Checklist must be noted as a limitation to this study.

One final measurement limitation of this investigation centers around the notion of "social competence". As Hughes and Sullivan (1988) have recently concluded, "no consensus exists on the definition of social skills or social competence" (p. 167). These investigators suggested that social competence is presently too global and imprecise a construct to guide assessment and research. Therefore, no single instrument or measure can adequately assess an individual's social competence. Hughes and Sullivan also emphasized the notion that social competence cannot be equated with the absence of problem behaviors. They hypothesized that problem behavior checklists, such as the CBCL, measure interfering responses to positive social behavior rather than social skills (p. 174). Therefore, the reduction in problem behaviors exhibited by the subjects during the course of this investigation cannot accurately be construed as a rise in social competence.

Sample Limitations

Two factors related to the specific sample used in this study define its limitations. First, from a quantitative point of view, the small size of the sample tended to reduce the likelihood of the achievement of statistical significance and to reduce the ability to detect anything but extremely large independent variable effects (Saslow, 1982). This fact has definite implications towards the generalizability of the findings of this investigation.

Secondly, the small number of elementary-aged behavior disordered pupils placed in self-contained special education programs that are actually available to participate in empirical investigations vastly restricted the selection of viable research designs. Further, the ethical dilemma posed by any possible withdrawal or withholding of the intervention strategies employed in this study also restricted the use of several research designs.

Time Limitations

Another limitation of the investigation involved the length of the followup phase. Ideally, it would have been preferable to monitor the maintenance of intervention effects among the target subjects for a longer period of time. However, the behavioral progress of the subjects prepared them for partial integration into a regular classroom setting much earlier than anticipated. As a result, direct observation of the subjects in the BMC classroom would not have been possible. In essence, to purposefully delay the integration of the subjects merely to continue the present experiment would have been highly unethical.

Theoretical Implications

The results of this study appear to have provided empirical support for several of the underlying assumptions of the ecological model and the interaction between a child and various environmental settings. Data collected from the ecological interviews and the CBCL confirmed the notion that the behavior of a child varies from one setting to another. Indeed, some of the behaviors that parents identified as major problems at home or in the community were not exhibited in the school setting. Conversely, behaviors that may be deemed inappropriate in the classroom, such as reading silently instead of completing a written assignment, were, in fact, welcomed at home.

The findings of this study also upheld the ecological assumption that interventions can be eclectic and may, therefore, be effective within the broad-based, multi-treatment component proposed by Kazdin (1987). For instance, the application of the specific classroom intervention strategies employed in this study did not preclude Bill from receiving ongoing psychological assistance through Alberta Family and Social Services.

Finally, since all elements in a child's ecosystem theoretically impact upon one another, the results of this study suggested that it was possible to intervene in the classroom and see additional effects, both intended and unintended, at home and in the community. The fact that the parent/guardians reported a significant change in the children's home and community behavior as a result of the intervention in the classroom underscores the validity of this assumption.

Research Implications

Several implications for future research were also apparent from the findings of this study. As noted by Bronfenbrenner (1986), there is a great need for more ecological research, particularly in classrooms designed for behavior disordered pupils. Likewise, Swanson and Watson (1989) stressed that more innovative research needs to be done to find and develop instruments sufficiently sensitive to record the community-and-child interaction process.

In addition, the efficacy of the peer confrontation approach and home-school linkage strategies with mild to moderately behavior disordered pupils in a regular classroom setting may be the focus of future investigations. Further, an indepth assessment of the effects of these interventions on the siblings of behavior disordered children would be well-suited to a qualitative, case study approach.

Practical Implications

The current investigation dealt with an educational intervention designed primarily to reduce the number of problem behaviors exhibited by six behavior disordered children. Several practical implications for behavior disordered pupils, their parents, special education teachers and school administrators were apparent following this investigation. A description of the implications for each of these individuals follows.

Behavior Disordered Pupils

Overall, the intervention strategies used had a discernable positive effect in modifying the behaviors of the pupils who took part in this study. These results clearly demonstrated that behavior disordered children can be taught to assume responsibility for the maintenance and control of their own behavior. This conclusion reinforced the ecological assumption that behavior disordered children should not be regarded as pathological or inadequate. The present findings strongly indicated that helping an individual child gain competencies, change his priorities and acquire needed resources are all viable intervention strategies. The fact that the BMC pupils were experiencing increased social and academic success in behavioral settings other than the BMC classroom substantiated this notion.

Parents Of Behavior Disordered Children

One major implication of this study for the parents of behavior disordered children concerned the importance of forming a strong partnership with the school. The ecological perspective adopted for the purposes of this investigation acknowledged the central influence of the family, particularly the parents, on the emotional and behavioral adjustment of children. The present findings, coupled with those of Lewis (1982, 1988), indicated that the behavioral success of the children was enhanced by frequent, parent-initiated contacts with the teacher. As evidenced by teacher and parental reports, the monthly classroom meetings were also viewed as a viable means of promoting a positive, supportive home-school relationship pattern.

A second practical implication arising from this investigation centered around the use of the intervention strategies in other behavioral settings, such as the home. Use of these techniques as part of a consistent disciplinary approach between the home and the school was seen as being of considerable benefit to the behavior disordered children in this study. Clearly, the interest and support shown towards these strategies by the parents raised the possibility that they could be used as part of a parent study component of a regular school program.

Finally, the results of this study and many more like it may reaffirm the general public's faith in special education programs as a treatment alternative to hospitalization or institutionalization of severe behavior disordered children.

Teachers And Administrators Of Programs For Behavior Disordered Children

One practical implication for teachers arising from this study involved the efficacy of the intervention strategies employed for the purposes of this study. Use of this specific intervention was enhanced by its ease of implementation, in that it provided the BMC teacher and the pupils with a simple, immediate and positive system for dealing with problem behavior. In view of the findings of the present study, it appeared that considerable teaching experience within the BMC program was not a prerequisite for the successful use of these strategies.

Secondly, the results of this investigation confirmed the ecological assumption that behavioral disturbances do not reside exclusively within the child. During the initial interview with the researcher, most of the parent/guardians indicated that their existing child management skills were largely ineffective. Consequently, it became apparent that the best way to improve the behavior of these children may not necessarily be to focus only on the individual child as a target for intervention. It may be more productive to direct efforts to other parts of a child's ecosystem, as well. This broader view of the treatment of children's behavior problems gives rise to three major target areas for intervention: changing the child, changing the environment and changing adult attitudes and expectations.

Recently, special educators (Krauss, 1990) have raised the possibility of shifting the emphasis of intervention efforts from the traditional Individual Program Plan, which assumed a child deficit orientation, to a more extensive Individual Family Service Plan (I.F.S.P.). This ecological approach encompasses the three major intervention areas mentioned earlier in an attempt to empower exceptional children and their parents to gain new skills and competencies. The findings of the present study have definite implications towards further consideration of the I.F.S.P. construct.

On a more general level, the results of this investigation suggested that at least some behavior disordered children can be managed within a self-contained, special education classroom setting. As evidenced by the relatively high levels of problem behavior exhibited by some of the BMC pupils at the conclusion of this study, it was clear, however, that an educational intervention alone cannot be considered a panacea for all behavior disordered pupils. Interviews with the BMC teacher and parents clearly indicated that a multidisciplinary team of professionals would be invaluable in formulating interventions for behavior disordered children. Current Alberta Education initiatives examining greater cooperation between the ministries of education, health and social services to provide assistance to the families of exceptional children hold considerable promise, yet remain untested.

This investigation also had strong implications towards the staffing of classrooms for behavior disordered pupils. It appeared quite likely that the "goodness of fit" between the BMC teacher and the target subjects may have been a factor in the outcome of the present study. As noted by Rizzo and Zabel (1988), "successful teachers of behavior disordered students are those who:

- * model appropriate socio-emotional, intellectual and achievement skills;
- * show fairness, sensitivity, empathy, persistence and other crucial human values;
- * express humor, joy and enthusiasm under appropriate circumstances;
- * remain calm and objective in crisis or stressful situations;
- * establish and maintain rapport with other teachers, administrators and other professionals; and,
- * conduct professional activities in an ethical manner" (p.296).

Further, these authors emphasized that as critical as these characteristics are, they are difficult to measure and perhaps even more difficult to teach. Based on the results of the present study, it is apparent that the competence of the teacher assigned to a special education classroom for behavior disordered pupils is critical to the success of program.

Summary

In conclusion, this investigation demonstrated that the use of eclectic interventions within an ecological model of behavior disorders could be of benefit to behavior disordered children, their parents and teachers. Use of the multiple baseline across subjects design clearly demonstrated the effects of the experimental treatment on the subjects of the study. An examination of the stability of baseline performance for each of the subjects and the magnitude and rapidity of the changes in behavior once treatment was applied suggests that the intervention, rather than extraneous events, accounted for the significant change in the behavior of the target subjects.

This investigation also provided empirical evidence of the ecological effects of a classroom-based intervention on children's behavior in other settings, such as the home and community. Lastly, the results of this study emphasized the importance of strong, supportive home-school linkages in working with behavior disordered children.

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APPENDIX A

Presenting Behaviors Of Behavior Disordered Children

Appendix A

Presenting Behaviors Of Behavior Disordered Children

Children with behavior disorders are those who chronically and markedly respond to their environment in ways that deviate significantly from age-appropriate expectations and significantly interfere with their own learning and/or that of others. Such children demonstrate more than one of the following characteristics:

> (a) severe inability to establish or maintain effective relationships with peers or adults, e.g. repeated conflict, inability to participate in group activities, antisocial behavior, resentfulness and defiance;
>
> (b) frequent demonstrations of inappropriate behavior or feelings under ordinary conditions, e.g. timid, withdrawn, excessive attention-seeking, emotionally unresponsive;
>
> (c) a generally pervasive mood of unhappiness or depression;
>
> (d) severe difficulty in facing reality, e.g. excessive use of fantasy;
>
> (e) very poor self-concept, e.g. strong feelings of inferiority;
>
> (f) frequently demonstrates a tendency to develop physical symptoms or fears associated with personal or school problems;
>
> (g) severe difficulty in coping with the learning situation in spite of appropriate educational remedial measures, e.g. needs an unusual amount of urging, is inattentive and indifferent (Alberta Education, 1984, p.14).

In essence, behavior disorders must be seen as a continuum. All children exhibit maladaptive behavior at some times. At one end of the continuum are pupils who exhibit such behaviors infrequently, for relatively short periods of time, or in relatively few settings, or to a moderate degree. At the other end of the continuum are a much smaller number of children who exhibit behavior disorders for extended periods of time, in all settings, and to an extreme degree.

APPENDIX B

Threats To Internal Validity
Identified In Reviewed
Peer-Mediated Intervention Investigations

APPENDIX B

Threats To Internal Validity Identified In Reviewed Peer-Mediated Intervention Investigations

THREAT TO INTERNAL VALIDITY	NUMBER	STUDIES
Error		
Low Variance Of Independent Variable		
History		
Maturation		
Testing		
Instrumentation		
Statistical Regression		
Selection Bias	2	7, 10
Mortality	1	6
Diffusion		
Fishing		
Violation Of Assumptions		

STUDIES:

1. Rashbaum-Selig (1976)
2. Ross & McKay (1976)
3. Strain & Odom (1986)
4. Smith & Fowler (1984)
5. Hoover (1984)
6. Odom & Strain (1986)
7. Bowman & Myrick (1987)
8. Sainato, Maheady & Shook (1986)
9. Dougherty, Fowler & Paine (1986)
10. Bellafiore & Salend (1983)
11. Fowler, Dougherty, Kirby & Kohler (1986)
12. Sandler, Arnold, Gable & Strain (1987)

APPENDIX C

Threats To External Validity
Identified In Reviewed
Peer-Mediated Intervention Investigations

APPENDIX C

Threats To External Validity
Identified In Reviewed
Peer-Mediated Intervention Investigations

THREAT TO EXTERNAL VALIDITY	NUMBER	STUDIES
Multiple Treatment Interference		
Failure To Describe Independent Variable Explicitly	3	1,2,5
Hawthorne Effect	1	2
Novelty Effect		
Experimenter Expectancy	1	9
Pretest Sensitization		
Posttest Sensitization		
Measurement Of Dependent Variable	1	10
Small Sample Size	7	1,2,4,6,8,9,11
Interaction Of Selection & Treatment	1	10
Interaction Of Time & Treatment	1	10

STUDIES:

1. Rashbaum-Selig (1976)
2. Ross & McKay (1976)
3. Strain & Odom (1986)
4. Smith & Fowler (1984)
5. Hoover (1984)
6. Odom & Strain (1986)
7. Bowman & Myrick (1987)
8. Sainato, Maheady & Shook (1986)
9. Dougherty, Fowler & Paine (1986)
10. Bellafiore & Salend (1983)
11. Fowler, Dougherty, Kirby & Kohler (1986)
12. Sandler, Arnold, Gable & Strain (1987)

APPENDIX D

Behavior Management Class (BMC) Program

Appendix D

Behavior Management Class (BMC) Program

Program Description

The BMC program is based in an Edmonton Catholic School, in West Edmonton. The class is taught by a female teacher, who is assisted by a full-time female aide. Both a school counsellor and a behavior consultant provide weekly service in the areas of observational assessment and direct consultation. A community-based psychiatrist is also retained on a consultative basis.

Upon entry into the program, an Individualized Behavior Plan (IBP) is prepared for each child. This document focuses on specific behavioral objectives and remedial techniques to be worked on within the school context. Evaluation and revision of the IBP is done every three months.

Placement Procedures

A child identified at the school level as being behavior disordered is referred to a behavior consultant. If, after all remedial resources have been exhausted, the problem continues or, in fact, accelerates, procedures are initiated to refer the child to the BMC program. The following data is then obtained:

1. Comprehensive report from the behavior consultant;
2. Complete medical examination and report from an Edmonton Board of Health pediatrician;
3. Complete psychiatric examination and report;
4. Psychological and achievement testing;

5. School history including reports from the administrator, and classroom teacher outlining specific presenting problems and behavioral interventions;
6. Full academic report, including strengths and weaknesses, and,
7. Written essay from the child's parents describing both their concerns and the efforts they have made in an attempt to remediate their child's problem behavior.

Each case is evaluated by an admissions panel, taking into account the above-mentioned information. The six elementary children judged to be the most severely behavior disordered are then selected for placement in the BMC program. All children are prescreened in order to ensure than they possess average to above average intelligence.

Program Objectives

Following is a list of objectives under which the BMC program functions:

1. To provide an educational service to behavior disordered children as close to their home community as possible, in the least restrictive setting in which the children can function.

2. To have as a primary focus, development of adequate and appropriate behavior patterns that will equip the child to function in society at large.

3. To ensure that academic skills will be approached in keeping with each child's ability and achievement level.

4. To provide parents with the opportunity to become closely involved with the rehabilitative process through learning better parenting skills and ways of reinforcing classroom-based behavior changes.

5. To assure that techniques for enhancing self-concept are implemented throughout the program.

6. To have the teacher maximize successful experiences for these discouraged children.

7. To delimit clearly for each pupil what appropriate behaviors are and to help them to strive for responsibility.

8. To provide integration with regular classroom children to the greatest extent possible, based on the needs and the progress of the individual pupil.

9. To emphasize the concept of mutual respect as a central theme of the program.

APPENDIX E

Sample Improvement Book Page

Appendix E

Sample Improvement Book Page

☺ ● ☺ MY IMPROVEMENT BOOK ☺ ● ☺

DATE: ______________________________

____

STUDENT'S SIGNATURE ☺ ●

____

TEACHER'S SIGNATURE ☺ ●

____

PARENT'S SIGNATURE ☺ ●